

24-30 October 1985

It's the best selling weekly

Vol 4 No 43

Atari's megabyte monster

ST BASIC – ALL IS REVEALED P9

THIS WEEK'S NEWS

- COMMODORE'S 128 DISC SETBACK
- MINER WILLY – THE FINAL CHAPTER
- AMIGA – THE CLONING 8EGINS

ATARI is poised to announce a number of new additions to its ST 16-bit micro family next month

Among the new models is a 1M Ram model, the 1040 ST

The 1040 ST, which apparently is to be offered in this country together with a colour monitor for as little as £1,000, will be upwardly compatible with both the planned 260 ST and 520 ST and will feature a built-in 720K formatted capacity disc drive.

The machine, together with the other new Atari models is likely to be previewed for the first time at the American Comdex show held in Las Vegas from November 20-24

Atari is taking a large stand at the show and as the *Personal Computer World Show*, is offering third party software companies booths on its stand to show ST titles Atari UK declined to confirm any details of the other new models to be shown for the first time at Comdex

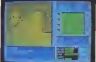
"Life doesn't stop with the 520 ST," said Rob Harding, Atari UK's sales and marketing manager "The range will be moving both upwards and downwards and we hope that the new developments at Comdex will put a bit more excitement into the industry

It is thought, though, that Atari may also give its 32-bit workstation, the TT based on the 32032 processor, a preview at Comdex

The alternative monitor unit, the PS3000 which features a built-in 720K formatted capacity disc drive, intended as an add-on unit using fewer leads and flexes will be shown continued on page 4▸

MICRO MAGIC

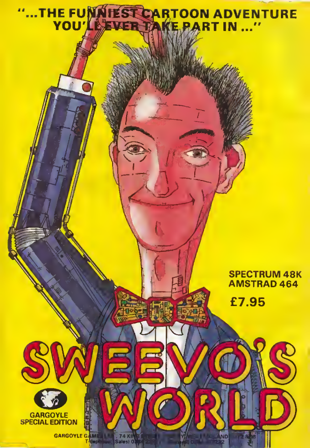
Find out if you have won an Amstrad 6128 this week or at least some special *Popular Computing Weekly* cassette labels Enter your personal Micro Magic number into our special computer program on page 6



TAU-CETI is the latest title from CRL, combining icons windows, adventure-style text input, logic puzzles, and arcade action

Tau-Ceti will be released at the beginning of November for the Spectrum, at £9.95

INSIDE ⟩ C64 MUSIC CONSTRUCTION SET REVIEWED ON P14 ⟩


"...THE FUNNIEST CARTOON ADVENTURE YOU'LL EVER TAKE PART IN ..."
SPECTRUM 48K
AMSTRAD 464
£7.95
SWEEVO'S WORLD
GARGOYLE SPECIAL EDITION

CONTENTS

Vol 4 No 43

EDITORIAL

You can always tell a true microcomputer company by the way it behaves

It is easy to tell that Amstrad, for example, is not a *real* micro firm (even though computers now account for more than half of its sales) because it manages to achieve what it says it will, with the minimum of fuss and on time

Both Atari and Commodore, though, have this week proved that they *are* real computer companies

Atari has, rather spectacularly announced a new model in its range of 68000-based ST computers, notwithstanding the fact that, of the three models previously planned, one has appeared only in the development form lacking in finished firmware (see the ST Basic preview, this issue), one has been scrapped altogether, and the third has been seen once briefly at the *PCW* Show The Atari ST is an important new micro, in danger of being devalued by delays and continued confusion over what models will eventually be offered in the UK

But Commodore must take this week's biscuit. Its C128 micro has now finally reached the shops Unfortunately vital accessories needed to use it properly – the disc drive and monitor – have not Where are they? Commodore hopes to have a few 1570 disc units available for evaluation within ten days Without them the C128 can only really satisfactorily be used in C64 compatible mode Its two other modes – C128 and CP/M both require the disc unit and monitor to be used to get the best out of the machine This must be regarded as sometimes of a triumph for Commodore

Editor David Kelly **News editor** Christina Erskine **Features editor** Graham Taylor **Software editor** John Cook **Production editor** Lynne Constable **Editorial secretary** Lucinda Lee **Advertisement manager** David Lake **Assistant advertisement manager** Jeremy Kite **Advertisement Executive** Diane Holyoak **Classified executive** David Osen **Administration** Geraldine Smyth **Managing editor** Duncan Scot **Publishing director** Jenny Ireland **Published by** Sunshine Publications Ltd 12-13 Little Newport Street, London WC2H 7PP Tel 01-437 4343 Telex 296275 **Typeset by** Publishers Reprographics Services Ltd, 4 Roger Street, London WC1 **Printed by** Greenaway Harrison, Sutton Road Southend-on-sea, Essex. **Distributed by** S M Distribution, London SW9 Tel 01-274 8611 Telex 881643

ABC

86 082 copies sold every week (Jan June 1984 ABC)

Popular Computing Weekly. Tel: 01-437 4343.

How to submit articles Articles which are submitted for publication should not be more than 3000 words long The articles and any accompanying programs should be original It is breaking the law of copyright to copy programs out of other magazines and submit them here — so please do not be tempted **Accuracy** *Popular Computing Weekly* cannot accept any responsibility for any errors in programs we publish although we will always try our best to make sure programs work.

Computer Trade Association Magazine of the Year

Sir Clive's C5 venture appoints receiver

A RECEIVER has been called in to sort out the finances of Sir Clive Sinclair's troubled electric vehicle company. The decision follows nine months of disappointing sales after widespread criticism of the C5 vehicle's design at its launch in January. A creditors' meeting will be held shortly and the company is expected to go into liquidation. The receivers hope that a buyer will be found for the company, especially as research work on the more sophisticated C10 and C15 electric vehicles is apparently well advanced.

Sinclair Vehicles, which was renamed TPD on September 19, owed over £700,000 to 110 different suppliers. In addition, Sir Clive had personally invested £7m in the electric vehicle project.

It is not clear why the name change was made – at the same time, a direct subsidiary of TPD was formed, called Sinclair Vehicles (Sales) which is not insolvent, and continues to trade, administered by the joint receivers, David Sapte and Anthony Locke of Begbies.

"TPD sold all its assets to the subsidiary company," said David Sapte. "Its only assets now are its shares in Sinclair Vehicles (Sales)."

The writ taken out by Hoover against Sir Clive Sinclair in July, for £1.5m, was never served.

Apparently the dispute between the two has now been settled.

In its short existence, Sinclair Vehicles sold 4,500 of its C5 pedal-assisted electric tricycles, having predicted sales of 100,000. The production line at Hoover's Merthyr Tydfil plant was cut from 1,000 to 100 units per week in April and then closed down altogether in August.

C128 hampered by disc drive delay

PURCHASERS of Commodore's new C128 micro, now available, will be disappointed to discover that they can only use the machine satisfactorily in one of its three modes.

The new 1570 disc drive, designed to complement the new 128 micro enabling it to be used in 128 and CP/M modes, has still to reach the shops.

Without the disc drive, the Commodore 128 is no more than a rehoused Commodore 64. Owners who already have the C64's 1541 disc unit will however to able to use a small number of CP/M packages on the 128. The 1541 will work with software written in the non-standard GCR CP/M format. However, accessing the disc will be slow and the £199.99 1570 was specifically designed as a fast drive.

"We are expecting a shipment of between 5,000-10,000 this week," said a Commodore spokesman, who hoped that disc drives might become available next week.

Spectrum 128: A rare picture of Sinclair's 128K Spectrum, launched in Barcelona last month, showing its separate numeric keypad. It is not expected in the UK until Spring 1986.

Atari's 1M monster

◀ continued from page 1

The new 1040ST has the 1M disc drive built into the main keyboard/cpu unit in the same way as the 260 ST, but on the opposite (right-hand) side. To accommodate the disc drive a number of the ports have been moved – the mouse socket on the 1040 ST to be found underneath the cpu so that the mouse and cable extend from the front of the keyboard rather than from the side.

Spectrum Elite put back

FIREBIRD has been forced to delay the launch of the version of *Elite*. It is now not clear when the game will appear.

"Spectrum *Elite* has now been delayed almost to the point of embarrassment," said Firebird publisher Herbert Wright. "We feel that the game as it stands is too difficult – while some people would be able to play through and reach Elite status, we really want everyone to enjoy the game."

Firebird has also changed its plans as regards its new range of Super Silver games, which include *Thunderbirds* and enhanced Amstrad conversions of *Booty* and *Cylu*. The range, intended to denote titles which although inexpensive are of higher quality than the rest of the Silver series will now cost £3.95 rather than the £3.50 previously planned.

The existing price of the Silver range has recently been reduced from £2.50 down to £1.99.

Datasoft in court over takeover bid

DATASOFT, the US software company responsible for titles such as *Bruce Lee*, *Goonies* and *Zorro*, is currently involved in a court wrangle over a proposed takeover.

Gillette, best known as a manufacturer of razors, has owned 40% of Datasoft for the last two years. Now it is trying to increase that share to 80%, and gain control.

Gillette's bid was rejected by Datasoft's managing director Patrick Ketchum, and the matter has now been referred to a court hearing, Datasoft having been effectively been placed under a Chapter 11 ruling in the meantime whereby the company's trading is controlled by its bank. If the judge decides in Gillette's gavour, Datasoft will then be administered by Sam Poole and Ted Hoffman, currently department managers at Datasoft, and other executives appointed by Gillette.

However, Datasoft's titles, released in this country by US Gold, will not be affected.

"We have got the finished version of Goonies which we have to release here by the beginning of November to tie in properly with the film," said US Gold's general manager Tim Chaney. "The only slight hiccup is *Zorro* on the Commodore 64 – the music for that isn't finished yet, and I'm not yet sure what will happen."

Commodore seeks to license Amiga chips

FAVOURABLE reaction from critics and the public alike to Commodore's new Amiga micro looks set to provoke a series of imitations and Amiga-lookalikes

Commodore itself is also now considering licensing the custom chips in the Amiga, Agnus, Daphne and Portia, to other hardware manufacturers in order to enable them to develop Amiga compatibles It has also approached Metacomco, the Bristol based software house which wrote Amiga Dos about licensing AmigaDos together with the custom chips

"Commodore has talked to us about licensing chips, and how we felt about licensing our operating system," said Peter Mackeonis of Metacomco "We said 'yes' Anyone interested in licensing AmigaDos, please get in touch "

Sophisticated graphics and sound created using custom chips the Amiga's hallmark - are regarded by many companies as the next important features for micros One source inside another major home computer manufacturer indicated that imitating the Amiga's chips may not be as difficult as it appears

Companies which are almost certainly now looking at Amiga-type technology for their future projects include the MSX manufacturers, Amstrad and Acorn

Members of the Japanese MSX Firms have recently introduced a series of 'MSX I' machines with significantly improved graphics and are widely thought to be looking at the 68000 chip for MSX 2.

Acorn's breakthrough with its RISC chip technology now gives it the wherewithal to produce custom chips on a par with Amiga

Amstrad is particularly interested in undercutting Commodore's price "We have no plans for an Amiga rival at the moment," said William Poel, head of Amsoft "The 6128 looks sure to last a lot longer than anyone thought, and there's no need for modifications

"We'd love to do an Amiga lookalike if the technology was available, but we'd also want the software to be there Amstrad does not take technological risks, and there'll be nothing in that line in the next twelve months Mind you, if the Amiga were £499 I'd buy one tomorrow "

Miner Willy in new game for January

MATTHEW Smith, top selling author of *Manic Miner* and *Jet Set Willy*, has at last come out of semi-retirement and written the third and final part of the Miner Willy trilogy, *Willy Meets the Taxman*.

In this game, Willy is being hotly pursued by the agents of the Inland Revenue, after their share of his finds in the mines

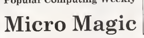
"*Willy Meets the Taxman* uses a different graphics style in that the pictures will be larger," said Paul Patterson, sales manager of Software Projects, which will publish *WMTT* and of which Matthew Smith is a director

The program will be simultaneously released on Spectrum, Amstrad and Commodore 64 in January 1986 A price has not yet been released

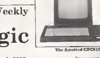
Fighter Pilot sequel launched

EIGHTEEN months after the release of its the acclaimed *Fighter Pilot* simulation, Digital Integration has announced the follow up, *Tomahawk*, for the Spectrum It should be out by December at £9 95





Popular cassette labels



The Amstrad CPC6128

We are giving away an Amstrad CPC6128 128K micro – worth £399 – every seven days until Christmas. Not only that, but every Micro Magic card is a winner – every card wins a runner-up prize of free Special *Popular Computing Weekly* cassette labels

How to find out if you are a prize winner this week
To find out if you are a prize winner this week this is what you must do

1) Key in the computer program listing printed here into your micro and *Run* the program

2) Input your special **Micro Magic** number as data in the program when requested and press *Enter*

3) The program will tell you if you have won a prize this week and what it is

4) If you have won a prize you can claim it by filling in the coupon on the back of your special **Micro Magic** card. Then send the completed card off to: **Micro Magic, Popular Computing Weekly, 12-13 Little Newport Street, London WC2H 7PP**

Don't forget to fill in both your name and address, and also both your winning **Micro Magic** answer from this week *and* your special **Micro Magic** number

5) If you haven't won this week, don't give up hope. Keep your **Micro Magic** card and use it to find out if you win with next week's **Micro Magic** computer program. The same card will last you right through to Christmas, so don't throw it away – you could miss the opportunity to win

```
5 PRINT "Input your personal Micro Ma[illegible]
  number"
10 INPUT a
15 FOR x=[illegible]
20 [illegible]
30 [illegible]
40 LET [illegible]
45 NEXT x
50 IF x=144488 THEN GOTO 80
55 IF x=1196344 THEN GOTO 70
60 PRINT "Your matching Micro Magic
  number is [illegible]
61 PRINT "Better luck next wee[illegible]
62 GOTO [illegible]
70 PRINT "Your matching Micro Magi[illegible]
  number [illegible]
71 PRINT "You have won an Amstrad [illegible]
  128"
75 GOTO [illegible]
[illegible]STOP
80 PRINT "Your matching Micro Magic
  number is [illegible]
81 PRINT "You have won cassette lab
  els"
88 GOTO [illegible]
```

Micro Magic: Week 4 Program listing

This week's winning Micro Magic Numbers: 144488 and 1196344

If you think you've won complete the form on the back of your Micro Magic card and send it to: Micro Magic, Popular Computing Weekly, 12-13 Little Newport Street, London WC2H 7PP.

Micro Magic cards can only be obtained in line with the criteria outlined by Sunshine Press. Participants are entitled to only one card each. Cards and accompanying documentation can be obtained free of charge by writing to Sunshine Press, 12-13 Little Newport Street, London WC2H 7PP.

THE ULTIMATE GAMES FOR THE

COMMODORE 64





Sabre Wulf and Underwurlde are available on the Commodore 64 at £9.95 inc. VAT



Basic Basic for Atari's ST

Atari has finally released first versions of its Basic for the ***ST.*** ***Jeremy Vine*** *presents the first look*

Anyone who has recently acquired one of the new 16-bit Atari ST machines will have noticed as well as being the 'power without the price' it is also that 'without' most of its advertised bundled software.

Not least the Basic, which was expected to be available on launch, and was conspicuous by its absence.

Finally, however, the Basic is available – well, almost. The version that is reviewed here is, in the words of an Atari spokesman, '95% complete'.

It has to be said that after such a long wait (I've had my machine for many months) rumour has been rife about what goodies would be included within this Basic.

In particular, would there be any hooks into the Gem operating system, enabling users of basic to write their own Gem-like programs?

The quick answer is – forget it! If you want to write Gem programs you'll need the Gem programmer's toolkit and competency in programming. But what of the Basic?

The version supplied to me was on disc (Wot – no Rome yet!?) and contained around 140K of code. On loading Basic, the screen divides into four Gem windows, though only three are clearly visible. These are the List, Output and Command windows. A fourth window, Edit, is almost completely covered by the aforementioned windows and is accessed either by the Edit pull-down menu or by clicking the mouse pointer on the visible part of the windows. Of course, like all Gem packages, these windows can be reconfigured to personal taste though the arrangement makes reasonable sense.

The size of the Output window, where the results of a basic program are displayed, may at first seem small but the user can change the size of the window by means of the mouse or directly within the program using one of four Basic keywords *(Clean, Closew, OPenw, Fullw)*. Each of these commands are followed by a numerical value in the range 0 to 3, respresenting the four screen windows. In this way it is possible from Basic to direct each window separately to clear the area within the window, close or open a window and make a window full size. One of Atari's '5%' bugs showed in the windowing area, when all windows were closed. There was no way to re-open a window and continue Basic! This has been noticed by Atari and will apparently be corrected by the release version.

The one thing ST Basic is not short of is editing tools. There's a host of them. What it lacks in speed and power it makes up in its editing facilities. The ten function keys contain basic editing facilities such as deleting and inserting lines or characters. Such is Atari's enthusiasm for presenting these facilities that they are not only available by pressing the relevant function key but also by using the drop-down menu (Edit) and mouse. I felt spoilt for choice.

In addition to the editing facilities, Atari has gone overboard to provide debugging commands to help the weary programmer track down those irksome gremlins that cause programs to crash. There is a drop-down menu which provides the now obligatory *Trace* option, listing the lines in the Command window as the program runs. *Tron* works in a similar fashion but prints only the line number. Those two facilities are fairly standard and are no surprise. But Atari programmers obviously enjoy their comfort and they have provided a few niceties to make error-trapping that little bit easier.

Spoilt for choice

Break causes the program to stop executing after each program line and the line is displayed in the Command window whilst any output is shown in the Output window. Pressing the *Return* button causes the next line of the program to be run. Just in case you fancy doing exactly the same a different way, the user can invoke the *Step* command which carries out precisely the same task! Normal program execution is resumed with *Cont*.

And that's not all! *Follow* allows the programmer to follow the value of variables. Whilst a program is running, each time a changing variable is encountered, the name of the variables its value and the line number are printed in the Command window. *Unfollow* turns off the command. The *Edit* statement calls the editor section of Basic and the user can specify which line is to be edited. An omission which annoyed me was being unable to move the editing cursor by means of the mouse.

Annoying omission

Considering the emphasis on mouse control, it would make life easier if there was less need to return to the keyboard. The final debugging feature is in addition to error messages which are generated as lines are typed in (similar to the Sinclair syntax checker but thank goodness not as rigid!). On listing a program (in the List window) which has generated error messages, a question mark (?) appears by each line where an error had been generated. This makes glancing through a long listing less of an eyestrain.

All these editing and debugging features suggest that more attention has been paid to appearances than the structure and power of the language.

This is a pity as a machine of the ST's calibre should be boasting a fast, powerful, structured Basic. In a few benchtests using simple loops ST Basic, however, appears quite slow and was in some cases almost twice as slow as an equivalent program on my BBC. Where a specific function (ie *Circle*) was used

```
Desk  File  Run  Edit  Debug
LIST                                OUTPUT
10   clearw 2
20   print spc(5)"
25   for x = 100 to
30   color 1,0,1
40   circle x,50,4
45   next
50   color 1,2,1
60   pcircle 100,5

HELP EDIT!
     Insert Space   - F1
     Delete Char    - F2
     Insert Line    - F3
     Delete Line    - F4
     Page Up        - F5
     Page Down      - F6
     Load Text      - F7
     Save Text      - F8
     New Buffer     - F9
     Exit Edit      - F10
           Ok

Ok 25 for x = 100 to 3
Ok 40 circle x,50,4
Ok 45 next
Ok run
Ok LIST
Ok
```

ST Basic Preview

though, the speed was more than acceptable. Atari recognises that this Basic is not as fast as it could be and I am assured that there will be an increase in speed before the final version. However, don't hold your breath as the speed will still be slow for what is a fast processor. It seems that we will have to wait for a faster, better Basic.

Graphics is poorly represented with only *Circle*, *Ellipse*, *PCircle*, *PEllipse* and *Colour* commands. This will be viewed with great disappointment by those who have waited to try their hand at graphics using Basic. No doubt somebody will argue that if its graphics you want, there's always *Logo*. But a Basic on the ST should have a host of graphic commands, not just leave the user wondering and at the mercy of *Poke* and *Peek*, which is likely to produce some fun for ex terminal addicts. It is also a necessity for attempting to access Gem functions.

Sound accessible

The sound chip is at long last accessible using the *Sound* and *Wave* commands. Nothing very special here but sufficient to control the usual aspects of the sound chip including shape of envelope, duration etc.

The manual is pitifully lacking in this area and is of little help.

I've already mentioned the feeling that the Basic lacks power and this shows up in its poor range of control structures. *For-Next* and *While-Wend* loops are present but that's it. I'd like to have seen a little more power in the shape of *Do-While* and *Repeat-Until* features.

The user can return to the Gem Desktop at anytime by using *System* or *Quit* (yet again, identical commands), though this does have the effect of wiping the program out of memory. The manual provided to me as a proof of the final version and can only be considered as a reference guide. As a source of reference for keywords it is good with the exception of the sound commands explanation. If you intend to learn Basic don't even consider using the manual. It's a reference guide for those acquainted with programming in Basic.

The Basic should, Atari says, be shipped in three to four weeks. On past form this means you might be playing with Basic before Christmas.

ST Basic is a reasonable version of Basic but, considering this is potentially such an advanced micro it is more than a little disappointing. It lacks speed, is extremely disappointing in its graphics commands and control structures but does have a host of editing and debugging features. The windowing system makes writing programs appear more attractive but it may well be that the effort that has gone into making Basic appear good, has made the more essential elements of a good Basic suffer.

Atari argues that as part of the bundled software, ST Basic shouldn't be considered the ultimate in Basics and a spokesman has already confirmed, unofficially, that a new basic is being written though not to be included in the bundled software. This particular hybrid of the language will address many of the criticisms of ST Basic and will include more hooks into Gem as well as being far more structured and a great deal faster.

But for the moment we'll have to make do with Atari's first offering. A wholly unremarkable job! Even so, after such a long wait for any ST Basic language it's very welcome.

TABLE: Atari Basic command words

ABS	DEFSTR	INT	OPEN	SPACE$
ASC	DELETE	KILL	OPENW	SPC
ATN	DIM	LEFT$	OPTION BASE	SQR
AUTO	DIR	LEN	OUT	STEP
BLOAD	EDIT	LET	PCIRCLE	STOP
BREAK	ELLIPSE	LINE INPUT	PEEK	STR$
BSAVE	END	LINE INPUT#	PELLIPSE	STRING$
CALL	EOF	LINEF	POKE	SWAP
CDBL	ERA	LIST	POS	SYSTAB
CHAIN	ERASE	LLIST	PRINT	SYSTEM
CHR$	ERL	LOAD	PRINT$	TAB
CINT	ERROR	LOC	PRINT USING	TAN
CIRCLE	EXP	ERR	PUT	TRACE
CLEAR	FIELD	LOF	QUIT	TROFF
CLEARW	FILL	LOG	RANDOMIZE	TRON
CLOSE	FIX	LOG10	READ	UNBREAK
CLOSEW	FLOAT	LPOS	REM	UNFOLLOW
COLOR	FOLLOW	LPRINT	RENUM	UNTRACE
COMMON	FOR	LSET	REPLACE	VAL
CONT	FRE	MERGE	RESET	VARPTR
COS	FULLW	MID$	RESTORE	WAIT
CSNG	GET	MKD$	RESUME	WAVE
CVD	GOSUB	MKI$	RETURN	WEND
CVI	GOTO	MKS$	RIGHT$	WHILE
CVS	HEX$	NAME	RND	WIDTH
DATA	IF	NEW	RSET	WRITE
DEF FN	INP	NEXT	RUN	WRITE$
DEF SEG	INPUT	OCT$	SAVE	
DEFDBL	INPUT#	OLD	SGN	
DEFINT	INPUT$	ON	SIN	
DEFSNG	INSTR	ON ERROR GOTO	SOUND	



UnitSoft
NEW FUTURE SOFTWARE
BUY DIRECT AND SAVE ££££££
ON THESE BACK CATALOGUE BARGAINS
SPECTRUM
COMMODORE 64
UTILITIES
JOYSTICKS ETC
ALL PRICES INC VAT & P&P.
CHEQUES POSTAL ORDERS TO:
NEW FUTURE SOFTWARE
and send to:
30 Wilson Street, Carlisle, Cumbria
S.A.E. FOR CATALOGUE
CUT PRICE SOFTWARE
CUT PRICE SOFTWARE, 4 Stackesbury Hatch Harlow, Essex CM19 4ET
Tel: (0279) 24433 (24hr ansaphone)
SOFTINSIGHT DISCOUNT SOFTWARE


"WHEN IT COMES TO SOFTWARE-I LIKE TO BE FIRST ON THE BALL"
LUTHER BLISSETT
ENGLAND WATFORD
Here's what's in the November issue:
Reviews of all latest games, a survey of top home micros and software and programs for owners of Sinclair, Amstrad, Commodore and Acorn machines.
Plus a special voucher offer giving you discounts on great software from Virgin Games.
MAKE SURE YOU'RE FIRST ON THE BALL, GET YOUR COMPUTER TODAY!!
YOUR COMPUTER
THE GOONIES
OUT NOW!
NOW WITH MORE GAMES FOR MORE MACHINES

Absurd flights

Program *Potty Professor* **Micro** Spectrum **Price** £8.95 **Supplier** Software Farm

The *Potty Professor* isn't the inventor of a better chamberpot as far as I know, though on the evidence of this game he might well be. After all, how many people do you know who need a table, fish bowl, hammer, cigarette and lighter, match and box of matches, spring and finally a red herring just to light the match?

Yes, Software Farm has devised the year's oddest computer game and I'm hedging my bets and not specifying which year!

The idea is to complete six simple tasks, such as frying an egg, flushing the loo or even loading a program into a Spectrum (sorry, that one isn't always so easy) by the most unlikely means. It all calls for absurd flights of fancy of the Professor Branestawm variety.

Presented with the resources available at the top of the screen you have to arrange them carefully using a cursor, then when you think you have it you start the chain of events and hey presto you usually find that you haven't and it all falls apart!

It's a superb idea with many amusing touches but it all collapses because the positioning of elements demands extreme accuracy. For me it all became frustrating, though I suppose more patients souls with a love of lateral thinking will enjoy it more.

And if you find it all too obvious. then you're probably certifiable!

John Minson

Faint-hearted

Program *Subterranean Striker* **Micro** CPC range **Price** £8.95 **Supplier** Amsoft, Brentwood House, 169 Kings Road, Brentwood, Essex.

With this tape Amsoft has taken elements of *Scramble* and *Defender* and combined them in a game that lacks the classic simplicity of both of them. It is also remarkably dated in its implementation – chunky graphics, tinny sound effects and, worst of all, juddering flickery scrolling that is almost bad enough to induce migraine in faint-hearted onlookers.

The idea is that you have to fly left, right, up and down in your spaceship over a scrolling landscape trying to find little men who have been put to work digging by evil aliens. At the same time, space invader type creatures float around ready to be shot. At one point in the landscape is a hole in the ground down which you can fly to find a series of caverns, some very narrow indeed, where the same sort of thing is going on. At the top is a *Defender* style radar screen showing the cavern layout, location of monsters and so on.

In fact, as a game it's not too bad if you like that sort of thing, which I do, and it would have made a good cheapy. It's even reasonably addictive, although it kills you off a bit too arbitrarily, forcing you right back to the beginning again. If only the implementation had been a bit better I would have liked it much more. Now excuse me while I go to lie down in a darkened room.

Tony Kendle

Screen editor

Program *QC* **Micro** QL **Price** £29.95 **Supplier** GST, 91 High St, Longstanton, Cambridge, CB4 5BS

C is an increasingly popular language aimed at a rapid and efficient compilation into machine code. Its fans boast of its structured approach, general simplicity and suitability for a wide range of systems applications. C's origins lie in work on mini-computer assembly languages at Bell Laboratories but the last few years have seen a growing concentration in the micro area.

There has been a bit of a race on to be the first to market a *C* compiler for the QL but the winner was GST whose recently launched *QC* package has been even more recently up-dated to include a full-fledged screen editor.

QC is a variant of *RatC* – a sub-set of *C* – but has several additional features including unsigned values, assignment operators and initialised local variables. The main features missing are full floating point maths and multi-dimensional arrays. Multi-dimensional arrays however, may be simulated through the use of pointers (variables designating other variables) in an array and accessed as if it were two dimensional.

Opening the box reveals one 84 page user manual, one copy of *A Book on C* by R E Berry and B Meekings (published by Macmillan and worth £7.50 in the shops) and three QL microdrives. Those recoiling in horror at the idea of microdrives will be glad to know that they contain a copy function in addition to the all important C-files.

The first microdrive (QC1) holds the QC compiler and assembler as well as a linker to join programs with the library files on the second microdrive (QC2). In addition to the libraries and a window manager, QC2 contains the compile file which drives the compiler, assembler and linker in combination. The third microdrive (QC3) is the most recent up-date to the product and contains the screen editor and an improved version of the compile program which utilises the editor and displays directory lists.

QC is good value for money and the combination of manual (well presented) and book make it an excellent choice for someone with some experience of programming who wants to learn *C*.

The package is probably not suitable for an absolute beginner but first-time computer buyers who have opted for a QL are probably still working their way through Super Basic anyway.

Jonathan Prestidge

Hot dog

Program *Winter Games* **Micro** Commodore 64 **Price** £9.95 (tape) £14.95 (disc) **Supplier** US Gold, Unit 10, The Parkway Industrial Centre, Heneage Street, Birmingham B7 4L



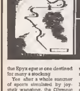
What's the secret of good comedy? Timing, of course, but it is a lesser known fact that it is also the secret of good marketing — enter *Winter Games* stage left, for the festive season approacheth and this Epyx epic is one destined for many a stocking.

Yes after a whole summer of sports simulated by joystick wagging, the Olympic flame transfers itself to colder climes to give armchair athletes everywhere the opportunity to indulge in such diverse sports as Free Skating, Figure Skating, Speed Skating, Ski Jumping, Biathalon, Bobsled and Hot Dogging. Just another joystick destructor? Well, in the main, no.

In the Free Skating and Figure Skating (largely the same), you control the movements of a skater using the joystick, but for once, skill and timing are needed. Axel Jumps and Lutz Jumps proliferate — but expect to spend most of your first few attempts on your bottom. Hot Dogging (acrobatics on skis to you) requires very much the same skills.

With Ski Jumping, you must time the moment of your take-off, then adjust your position in the air.

Bobsled is another left and right job but this time you are steering your sled down the run, slamming into the corners — you'll find yourself swaying in synch!



Finally, my favourite — the Biathlon. Racing against the clock, it is a combination of wrist endurance and reactions, as you alternate between shooting and ski-ing.

It is the fab graphics and sound that put this program head and shoulders above the competition. Neat touches abound and the package oozes with professionalism.

John Cook

Hard work

Program *Chemistry* **Micro** BBC & Electron **Price** £11.95 **Supplier** Letts & Co, Diary House, Borough Rd, London SE1 1AW

I'll admit my own chemistry leaves a lot to be desired — well, it did until I came across these programs. I don't want to re-sit O-levels, but if I did then this would be on my revision schedule. It is the latest in the Letts range of study aids: a set of computer revision programs covering 16+ Chemistry — ie, O-levels, CSE etc.

It is a suite of programs in two cassettes covering a wide range of topics in the common core syllabuses. The approach is a series of quizzes. Some are of the "fill in the missing words" type, others require you to move the cursor to the correct part of a chart or table of elements. There is even a clever program drawing apparatus requiring you to swap bits around until you have the correct configuration for making various gases. Each quiz offers choices of difficulty and a "help" prompt.

I enjoyed the challenges and the displays are pretty good. Make no mistake this isn't as much fun as playing *Death Star*. It is hard work and can become a shade tedious if you run through several items at one sitting. Nevertheless it beats re-reading text books and notes umpteen times.

The package does its job quite well. It gives you limitless practice at what you are unsure of. But don't worry, it is unlikely to put your science teacher out of work.

Dave Watterson

Scaled up

Program *Music Construction Set* **Micro** Commodore **Price** £9.95 **Supplier** Ariolasoft, Retail

I remember my old piano teacher telling me week after week to practice my scales and learn my note reading.

Today, armed with a computer, your priorities change, all you need is to know which key makes which note and all the rest is done for you. Oh well, maybe she now teaches the guitar!

Normally in any musically orientated program you need to know at least two basic things, an ear for timing, pitch and tone and at least some knowledge of written music, but, with this marvellous Icon driven release, life is a lot simpler even for those who are less gifted.

There will be some comparison here to Activision's *Music Studio*, which basically does the same thing as this albeit in a more colourful way, but I feel M C S is easier to use in every sense of the word.

On loading up you are presented with two choices; listen to the demo tunes, or start writing your own compositions. There are 13 tunes available to listen to from Bach to Mozart showing you the many different sounds that can be made from this program.

Actually writing the music is easy. On screen are a number of working Icons, musical notes and a blank sheet of 'music paper'. You simply select the pointer Icon, pick up a note with it and using the joystick (or keyboard) position it on the sheet. As you lay it down, the sound of the note is heard and after all the notes are positioned simply select the piano Icon and your tune will play.

Obviously, to program a full composition with bass notes, chords, and percussion, utilising the Commodore's full three channels will take some time, but after hearing the demos it will be worth it (I think Bach is tailor made for synthesized sound!)

A good handbook is supplied, well written and providing a few examples for you to get you on your way.

This was previously only available on disc but I am assured that nothing had been omitted from the original. Highly recommended.

Andy Moss


THE
MICRODEAL
Road Show
0726 68020
SOFTWARE FOR: DRAGON ★ TANDY COLOUR ★ SINCLAIR QL ★ I.B.M. Pc ★ TANDY 1000 ★ ATARI ST ★ COMMODORE 64/16 ★
IS AT A VENUE NEAR YOU:
ROADSHOW TIMETABLE
MANCHESTER-THE ENTRANCE HALL, UMIST, SACKVILLE ST. MANCHESTER
NEWCASTLE UPON TYNE-CIVIC CENTRE EXHIBITION HALL
LEEDS-WELLESLEY HOTEL, WELLINGTON ST.
Come along for - Previews of New Games - Special Offers - £100 Prize Draw - Demonstrations - and lots more!!!



MONTY ON THE RUN – IN THE SHOPS NOW

AVAILABLE ON

SPECTRUM 48K – TAPE	£7.95	
CBM 64/128 – TAPE & DISK	£8.95	£12.95
AMSTRAD – TAPE & DISK	£9.95	£12.95

Gremlin Graphics Software Ltd., Alpha House, 10 Carver Street, Sheffield S1 4FS. Tel: (0742) 753423

Hi-Lo

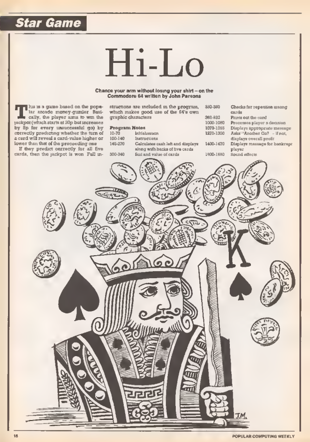
Chance your arm without losing your shirt – on the Commodore 64 written by John Parsons

This is a game based on the popular arcade money-guzzler. Basically, the player aims to win the jackpot (which starts at 20p but increases by 5p for every unsuccessful go) by correctly predicting whether the turn of a card will reveal a card-value higher or lower than that of the preceeding one.

If they predict correctly for all five cards, then the jackpot is won. Full instructions are included in the program, which makes good use of the 64's own graphic characters.

Program Notes

10-70	Initialisation
100-140	Instructions
145-270	Calculates cash left and displays along with backs of five cards
300-340	Suit and value of cards
350-380	Checks for repetion among cards
362-820	Prints out the card
1000-1060	Processes player's decision
1070-1265	Displays appropriate message
1270-1300	Asks "Another Go?" - if not, displays overall profit
1400-1470	Displays message for bankrupt player
1800-1880	Sound effects



```
0 REM ################################
1 REM #          H I - L O           #
2 REM #                              #
3 REM # J.PARTOHK ....      .1984/85 #
4 REM ################################
5
10 POKE53280 7 POKE53281 12
12 VZ=54296 NZ=54276 AZ=54277 HZ=54273 LZ=54272 AY=128
13 DE$(1)="LOW" DE$(2)="HIGH" GOSUB100
18 N=0 J=15
20 POKE53280 5 POKE53281 12
25 PRINT"" A=1 B=2 WY=33 SH=1
30 IFDA<10THEN1300
40 DA=DA-10 CC=CC+1
50 J=J+5 GOTO145
58 IFC(T)<>C(TT)THEN360
70 GOTO310
90
100 PRINT"" TAB(13) "H I - L O "
110 PRINT"    THIS IS A GAME OF LUCK & JUDGEMENT"
112 PRINT" IN WHICH YOU MUST GUESS WHETHER THE "
114 PRINT" VALUE OF THE NEXT CARD IS HIGHER OR"
116 PRINT" LOWER THAN THAT OF THE PRESENT ONE."
118 PRINT"    THE RELATIVE VALUE OF THE PICTURE"
120 PRINT"  CARDS & ACE IS (IN ASCENDING ORDER) "
122 PRINT"   JACK---QUEEN---KING---ACE."
124 PRINT"      PAIRS ALWAYS END YOUR 'GO'."
126 PRINT"      IT COSTS 10P-A-'GO'. IF YOU LOSE "
127 PRINT" THEN THE JACKPOT INCREASES BY 5P. IF "
128 PRINT" YOU WIN THEN YOUR PAYOUT EQUALS THE"
129 PRINT" JACKPOT.  YOU MUST CHOOSE HOW MUCH"
130 PRINT" MONEY YOU WISH TO START WITH."
131 PRINT"     (EG   ENTER '1.5' FOR £1 50)"
134 INPUT"HOW MANY POUNDS(1-10)",CR
136 IFCR<1ORCR>10THEN190
138 DA=INT(CR*100) IFCR*100=DA+1THENDA=DA+1
140 RETURN
143
144 REM ---CALCULATE CASH LEFT---
145 EA=INT(DA/100) FA=INT(DA-EA*100)
146 JA=INT(J/100) KA=INT(J-JA*100)
150 FORZ2=1TOSH
160 PRINT"   CASH       H I - L O       JACKPOT"
170 PRINT"£" EA,"." FA TAB(30)"£",JA,".";KA
180
185 REM ---DRAW PLAYING-CARDS---
190 A=1 FORZ=1TO5
198 PRINT""
200 PRINTTAB(A)"               "
204 FORI=1TO7
205 PRINTTAB(A) "           " NEXT
210 PRINTTAB(A)"             "
215 A=A+7 NEXTZ ZZ PRINT"" IFCC<>5THEN260
220 CC=0 PRINT"DO YOU WANT TO SHUFFLE THE CARDS? (Y/N)"
230 GETSH$ IFSH$<>"Y"ANDSH$<>"N"THEN230
240 IFSH$="Y"THENSH=6 GOTO150
250 PRINT"                              "
260 PRINT" F1 -- HIGHER"
270 PRINT" F3 -- LOWER"
290
295 REM ---RANDOM SUIT & CARD VALUE---
300 FORT=1TO5
310 C(T)=INT(4*RND(1))+1
315 IFC(T)=1THENC(T)=97 REM ---SPADE---
320 IFC(T)=2THENC(T)=115 REM ---HEART---
325 IFC(T)=3THENC(T)=120 REM ---CLUB---
330 IFC(T)=4THENC(T)=122 REM -DIAMOND-
340 AM(T)=INT(13*RND(1))+1
348
349 REM ---AVOID REPETITION---
350 FORTT=T-1TO1STEP-1 IFRA(T)=RA(TT)ANDT>1THEN60
360 NEXTTT,T
362 FORT=1TO5
375 PRINT""
380 IFC(T)=115ORC(T)=122THENPRINT""
390
400 PRINT ""
401 ONRA(T)GOTO445,470,490,530,570,610,650,
    690,730,770,810,850,890
402 IFU=5THENU=0 RETURN
403 GOTO1000
405 PRINTTAB(B)"       " RETURN
410 PRINTTAB(B)"  " CHR$(C(T)),"  " RETURN
412 PRINTTAB(B)"  " CHR$(C(T)),"  "
414 PRINTTAB(B)"       RETURN
420 PRINTTAB(B)" ",CHR$(C(T)),"  ",CHR$(C(T)),"  " RETURN
425 PRINTTAB(B)"  CHR$(C(T))  "  CHR$(C(T)),"  "
427 PRINTTAB(B)"       " RETURN
430 PRINTTAB(B)"       "
435 PRINTTAB(B)"       "
440 PRINTTAB(B)"       RETURN
441
442 REM ---DEFINE CARDS---
445 PRINTTAB(B)"2      " REM---2---
450 GOSUB410 GOSUB430 GOSUB410
455 PRINTTAB(B)"     2"
460 GOTO402
470 PRINTTAB(B)"3      " REM---3---
475 GOSUB412 GOSUB412 GOSUB410
480 PRINTTAB(B)"     3"
485 GOTO402
490 PRINTTAB(B)"4      " REM---4---
500 GOSUB420 GOSUB430 GOSUB420
510 PRINTTAB(B)"     4"
520 GOTO402
530 PRINTTAB(B)"5      " REM---5---
540 GOSUB425 GOSUB412 GOSUB420
550 PRINTTAB(B)"     5"
560 GOTO402
570 PRINTTAB(B)"6      " REM---6---
580 GOSUB425 GOSUB425 GOSUB420
590 PRINTTAB(B)"     6"
600 GOTO402
610 PRINTTAB(B)"7      " REM---7---
620 GOSUB420 GOSUB410 GOSUB425 GOSUB420
630 PRINTTAB(B)"     7"
640 GOTO402
650 PRINTTAB(B)"8      " REM---8---
660 GOSUB420 GOSUB410 GOSUB420 GOSUB410
670 GOSUB420 PRINTTAB(B)"     8
680 GOTO402
690 PRINTTAB(B)"9",CHR$(C(T)),"  " CHR$(C(T)),"  " REM---9---
700 GOSUB405 GOSUB420 GOSUB410 GOSUB425
710 GOSUB420 PRINTTAB(B)"9"
720 GOTO402
730 PRINTTAB(B-1)"10",CHR$(C(T)),"  " CHR$(C(T)),"  " REM---10---
740 GOSUB410 GOSUB425 GOSUB420 GOSUB410
750 GOSUB420 PRINTTAB(B)"10"
760 GOTO402
770 PRINTTAB(B) J      " REM---JACK---
775 PRINTTAB(B)CHR$(C(T)),"    " GOSUB430
780 PRINTTAB(B)          CHR$(C(T))
790 PRINTTAB(B)"     J"
800 GOTO402
810 PRINTTAB(B) Q      " REM---QUEEN---
815 PRINTTAB(B)CHR$(C(T)) "    " GOSUB430
820 PRINTTAB(B)       ",CHR$(C(T))
830 PRINTTAB(B)"     Q"
840 GOTO402
850 PRINTTAB(B)"K      " REM---KING---
855 PRINTTAB(B)CHR$(C(T)),"    " GOSUB430
860 PRINTTAB(B)"      ",CHR$(C(T))
870 PRINTTAB(B)      K"
880 GOTO402
890 PRINTTAB(B)"A      " REM---ACE---
895 GOSUB405 GOSUB405
900 PRINTTAB(B)"  ",CHR$(C(T)) "  "
905 GOSUB405 GOSUB405
910 PRINTTAB(B)"     A"
920 GOTO402
980
990 REM ---ENTER DECISION---
1000 B=B+7 FORI=1TO200 NEXTI
1005 PRINT "PLEASE MAKE YOUR DECISION"
1010 GETF$ IFF$=""THEN1010
1020 IFF$="" THENDE=2 GOTO1040
1030 IFF$="" THENDE=1 GOTO1040
1035 GOTO1010
1040 PRINT ""
1045 PRINTTAB(B)DE$(DE); ""
1050 IFRA(T+1)>RA(T)THENAN=2
1055 IFRA(T+1)<RA(T)THENAN=1
1060 IFRA(T+1)=RA(T)THENAN=0
1069 REM ---RIGHT OR WRONG?---
1070 IFDE<>ANTHENPRINT"    -SORRY  YOU LOSE." T=T+1
     POKE53280 14 GOTO1240
1080 PRINT"-CORRECT!" FORZ=1TO400 NEXTZ
1085 PRINT""
1100 IFT=1THENGOSUB1500 GOTO1150
1105 IFT=4THENT=T+1 H=1 GOTO1240
1110 PRINT -ONLY ",4-T " TO GO!"
1115 GOSUB1500 FORZ=1TO450 NEXTZ
1130 PRINT""
1150 NEXTT
1200 WY=17
1201 FORY=1TO8
1205 PRINT"
1210 FORZ=1TO90 NEXTZ GOSUB1500
1215 PRINT"     WELL DONE. YOU GOT ALL FIVE!"
     FORI=1TO120 NEXTI
1220 NEXTY DA=DA+J GOTO1270
1240 IFC(T)=115ORC(T)=122THENPRINT""
1250 J=39  PRINT""
1260 GOSUB400
1265 IFH=1THENPRINT"" GOTO1200
1268
1270 PRINT""
1275 PRINT""              ANOTHER GO?
     (Y/N) " REM 25 (CJD)
1280 GETA$ IFA$="Y"ANDH=0THEN20
1285 IFA$="Y"ANDH=1THEN10
1286 CB=INT(CA*100) HP=INT(DA-CB)
1290 IFA$="N"THENPRINT"  YOUR NET PROFIT IS    "
     HP,"PENCE." GOTO1450
1300 GOTO1280
1390 REM ---STONEY BROKE ---
1400 POKE53281 2 PRINT""        YOU ARE OUT OF TENS!"
1410 FORZ=1TO1500 NEXT
1420 IFDA<=0THEN1440
1430 PRINT"     YOUR ",FA,"P IS JUST NOT ENOUGH."
1440 PRINT"  NEVER MIND,... TRY AGAIN SOMETIME!"
1450 PRINT "" FORI=1TO40 PRINT"", NEXT PRINT""
     PRESS  £ " AY=130
1460 PRINTTAB(16)"TO RE-START GAME..."GETA$ IFA$<>"£"THEN1450
1470 FORI=1TO3 GOSUB1500 NEXT RUN
1490 REM ---SOUND FOR CORRECT---
1500 POKEHZ,0 POKEAZ 0 POKELZ,0
1530 POKEVZ,14 POKEWZ,WY POKEAZ,AY POKEHZ,17 POKELZ,37
1540 FORX=1TO80 NEXTX
1550 RETURN
```

Adventure by numbers

The final part of an adventure generator for the Spectrum
by ***Hugh Welker***

This week some brief program notes plus the remainder of the Basic listing. Don't forget, this is not actually an adventure, but a framework on which you can write your own by 'filling in the blanks'.

1. Input System (Lines 200 to 480)
Commands are printed on screen, as they are typed, letter by letter, on the keyboard. The usual editing facilities are present: Delete letter with *Caps Shift – 0*, Delete whole line with *Caps Shift – 1*. However, it is not possible to use Cursor keys. In addition, *Symbol Shift – 3* reprints the last command entered.

Press *Enter* to terminate Command and send to the Analyser ("parser").

2. Command Analysis (Lines 1110 to 1990)
The Analyser recognises three types of Command: (a) Movement, eg, *'N'* or *'North'* (b) Single Verb (eg, 'L' (ie, Look), 'Look' or 'Quit', (c) Verb + Noun.

While the program responds faster to the Verb or Verb – Noun type of input, fairly complex 'semi-English' commands are accepted including 'It' (recognised as the last Noun entered) and 'Everything' (ie, Ever) and All in the case of the Get/Drop routines.

The words 'And', 'Then' or 'And Then' are recognised as conjunctives between separate commands, thus, relatively complex multiple commands may be entered as one statement. While no limit has been placed on the number of commands which may be conjoined in this way, the program will stop analysing the statement as soon as it is unable to execute one of the commands.

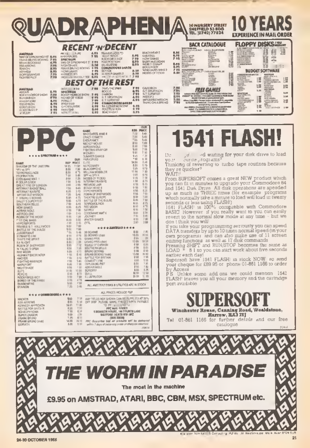
The expressions *'OB+NN'* and *'OB+NN-2'* in Lines 1810 & 1910 (resp) are used during program development. The cumulative effect of the calculations repeated during analysis increases the response time significantly. When the various arrays are complete these expressions should be replaced by the appropriate numeric values.

The rest of the program is fairly standard. The Location-dependent status conditions are dealt with in each location subroutine as are the Verb/Noun or Verb or Movement conditions checked in their own specific routines. This prevents the General Status Table becoming 'clogged' with irrelevant conditions.

This program is written with *Caps Shift* on. I realise that this gives an 'archaic' feel to the presentation but it is purely for clarity, especially as a ZX Printer has been used. Similarly, I have avoided multiple-statement lines for the sake of clarity. Considerable memory may be saved by using multiple statements in the finished program.

The use of variables for commonly used numeric values is also beneficial in terms of memory but not recommended in the Analyser routines because of the need for a fast response time. Finally, on the Spectrum, if you can bear to program in capital letters you may save quite a bit of memory by using Keywords for *'FOR'*, *'AT'*, *'IN'* etc.

```
7000 REM ***********************
7001 REM *** SUCCESSFUL END ***
7002 REM ***********************
7020 GO SUB 100
7030 PRINT AT 21,0;
7040 FOR F=1 TO 21
7050 PRINT TAB 8; INK INT (RND*8
); "CONGRATULATIONS"
7060 NEXT F
7070 PRINT AT 10,5;"YOU HAVE FOU
ND THE WAY OUT"
7080 GO TO 7500
7099 REM ***********************
7100 REM ***UNSUCCESSFUL END***
7101 REM ***********************
7110 FOR F=1 TO 50: NEXT F
7120 GO SUB 100
7130 PRINT AT 10,0;"I AM MOST FR
IGHTFULLY SORRY"
7140 PRINT AT 12,4;"BUT YOU APPE
AR TO BE DEAD"
7499 REM ***********************
7500 REM *** PLAY AGAIN ? ***
7501 REM ***********************
7510 PRINT AT 21,0;"DO YOU WANT
TO TRY AGAIN ? (Y/N)"
7520 PAUSE 0: PRINT AT 21,0;,
7530 IF INKEY$="N" THEN STOP
7540 IF INKEY$<>"Y" THEN GO TO 7
500
8000 REM *** INITIALISE ***
8010 LET Q$="ADBLANK"
8020 BORDER 7: PAPER 7: BRIGHT 0
: INK 0: CLS
8030 FOR F=1 TO LEN Q$: PRINT AT
 0,F*2+8; INK INT (RND*8);Q$(F);
: NEXT F
8040 PRINT AT 11,16;"@";AT 14,10
;"Hugh T Welker"
8050 PRINT AT 21,10; INK 0; PAPE
R 2; FLASH 1;"PLEASE WAIT"
8060 RANDOMIZE : POKE 23658,8
8099 REM *****************
8100 REM *** READ DATA ***
8101 REM *****************
8110 RESTORE 9E3
8120 DIM Z$(4,8): FOR F=1 TO 4:
READ Z$(F): NEXT F
8130 DIM W$(4,4): FOR F=1 TO 4:
READ W$(F): NEXT F
8140 LET IVN=7: DIM U$(IVN,4): F
OR F=1 TO IVN: READ U$(F): NEXT
F
8150 LET TVN=2: DIM V$(TVN,4): F
OR F=1 TO TVN: READ V$(F): NEXT
F
8160 LET OB=6: DIM O$(OB,10): FO
R F=1 TO OB: READ O$(F): NEXT F
8170 LET NN=3: DIM N$(OB+NN,4):
FOR F=1 TO OB+NN: READ N$(F): NE
XT F
8180 REM DIM N$(OB+NN,4): FOR F=
1 TO OB+NN: READ N$(F): NEXT F
8299 REM ***********************
8300 REM *** INTRODUCTION ***
8301 REM ***********************
8320 CLS : PRINT AT 0,12;Q$
8399 REM ***********************
8400 REM *** INITIALISING ***
8401 REM ***********************
8410 LET LCS=8: REM No. of Locat
ions
8420 LET TV=0
8450 REM **DIMension arrays**
8460 DIM X(11)
8470 DIM O(OB): DIM L(LCS,4)
8480 LET R$=""
8510 PRINT AT 21,0; INK 3;"Rest
ore a Previous Game ? (Y/N)": PA
USE 0: PRINT AT 21,0;,
8520 IF INKEY$="Y" THEN GO TO 42
00
8530 IF INKEY$<>"N" THEN GO TO 8
500
8549 REM ***********************
8550 REM *** READ DATA FOR **
8551 REM *** EACH NEW GAME **
8552 REM ***********************
8605 RESTORE 9500
8610 FOR F=1 TO OB: READ O(F): N
EXT F
8620 FOR F=1 TO LCS: FOR G=1 TO
4: READ L(F,G): NEXT G: NEXT F
8810 LET LC=1: LET LL=1
8820 LET DD=0: LET UN=0
8830 LET LN=0: LET CS=1
8900 GO TO 4E3
8999 REM ***********************
9000 REM ** DATA STATEMENTS **
9001 REM ***********************
9010 DATA "NORTH","SOUTH","EAST"
,"WEST"
9020 DATA "N","S","E","W"
9099 REM ***********************
9100 REM **INTRANSTIVE VERBS**
9101 REM ***********************
9110 DATA "L","LOOK","INVE","HEL
P","*SAV","*LOA","QUIT"
9199 REM ***********************
9200 REM ** TRANSTIVE VERBS *
9201 REM ***********************
9210 DATA "GET","DROP"
9299 REM ***********************
9300 REM * OBJECT(O$()) DATA *
9301 REM ***********************
9310 DATA "A LAMP","A SHIELD","A SW
ORD","A AXE","A EMERALD"
9399 REM ***********************
9400 REM **NOUN (N$()) DATA *
9401 REM ***********************
9410 DATA "LAMP","SHIE","SWOR","
AXE","EMER"
9450 DATA "ALL","EVER","IT"
9499 REM ***********************
9500 REM **OBJECTS LOCATION**
9501 REM ***********************
9510 DATA 1,2,0,3,4
9598 REM ***********************
9599 REM *EXIT (L(X,4)) DATA *
9600 REM ***********************
9601 DATA 2,5,3,0
9602 DATA 7,1,3,4
9603 DATA 8,5,0,1
9604 DATA 2,5,1,0
9605 DATA 1,0,3,4
9606 DATA 0,8,0,0
9607 DATA 0,1,0,0
9608 DATA 0,0,0,0
9700 REM
9701 REM ***********************
9990 SAVE Q$ LINE 8E3: VERIFY Q$
9999 PRINT (PEEK 23641+256*PEEK
23642-23755)/1024
```



QUADRAPHENIA
10 NURSERY STREET
SHEFFIELD S3 8GG
TEL. (0742) 77824
10 YEARS
EXPERIENCE IN MAIL ORDER
RECENT 'N' DECENT
BEST OF THE REST
BACK CATALOGUE
FLOPPY DISKS
BUDGET SOFTWARE
FREE GAMES
PPC
SPECTRUM
AMSTRAD
COMMODORE
ALL AMSTRAD DISKS & UTILITIES ARE IN STOCK
ALL PRICES INCLUDE P&P
PPC MAIL ORDER
PPC Guarantee that all products will be delivered within 7 days of receiving order or cheque returned
1541 FLASH!
Thinking of reverting to turbo tape routines because they're quicker?
WAIT!!
From SUPERSOFT comes a great NEW product which you can fit in minutes to upgrade your Commodore 64 and 1541 Disk Drive. All disk operations are speeded up as much as THREE times (for example programs which normally take a minute to load will load in twenty seconds or less using FLASH!)
1541 FLASH! is 100% compatible with Commodore BASIC. However if you really want to you can easily revert to the normal slow mode at any time – but we don't think you will!
If you take your programming seriously you can speed DATA transfers by up to 10 times normal speed (in your own programs) and can also make use of 11 screen editing functions as well as 17 disk commands.
Pressing SHIFT and RUN/STOP becomes the same as LOAD "*",8,1 so you can start work about five seconds earlier each day!
Supersoft have 1541 FLASH! in stock NOW, so send your cheque for £89.95 or phone 01-861 1166 to order by Access.
P.S. Unlike some add ons we could mention 1541 FLASH! leaves you all your memory and the cartridge port available.
SUPERSOFT
Winchester House, Canning Road, Wealdstone, Harrow, HA3 7SJ
Tel 01-861 1166 for further details and our free catalogue
THE WORM IN PARADISE
The most in the machine
£9.95 on AMSTRAD, ATARI, BBC, CBM, MSX, SPECTRUM etc.

Deeper and deeper into space

Delve deeper into the mystery – Part Two of Space Station Zebra on the 464 by ***Bob Baxter***

Yet another helping of code this week.

However, if your fingers get too tired of typing, then I can supply you a copy of the adventure on tape for £2.95 inclusive

Write to me at PO Box 17, Burnham-on-Sea, Somerset enclosing a cheque or postal order

```
2700 NEXT t:PRINT"I can't see any "NO$" here "N0$
2710 PRINT:PRINT"Try another instruction  "N2$:GOTO 2490
2720 IF LO(I)<>RM THEN PRINT"There s nothing here ":GOTO 2420
2730 NO$=CO$(I):IF AN=100(39) THEN PRINT "Good" the're needed for analysis.."
2740 IF CA=5 THEN PRINT"I can't carry "NO$" +Q$":GOTO 2390
2750 LO(I)=-1:CA=CA+1:PRINT"Ok "Q$" I got it!":GOTO 2420
2760 FOR I=1 TO 00:IF OB$(I)=LEFT$(NO$,LEN(OB$(I))) THEN 2780
2770 NEXT:PRINT"Drop What?":GOTO 2710
2780 IF LO(I)<>-1 THEN PRINT"I haven t got "NO$:GOTO 2420
2790 NO$=OB$(I):IF NO$=OB$(39)THEN PRINT:PRINT"BUT The're needed for analysis."
2800 CA=CA-1:LO(I)=RM:PRINT"Right' "N2$" I dropped "NO$:GOTO 2420
2810 IF AT=1 THEN PRINT"Aye' aye' TROUBLE !..":PRINT:GOTO 3040
2820 LR=RM:DI$=LEFT$(NO$,1):IF DI$="N" THEN RM=0
2830 IF DI$="S" THEN RM=S
2840 IF DI$="E" THEN RM=E
2850 IF DI$="W" THEN RM=W
2860 IF DI$="U" THEN RM=U
2870 IF DI$="D" THEN RM=D
2880 IF LR=29 AND DI$="U" THEN BARK=0:RM=28
2890 IF LR=47 AND DI$="U" THEN BARK=0:RM=48
2900 IF RM=0 THEN MODE 0:LOCATE 8,12:PRINT"OUCH!":FOR T=0 TO 200:NEXT T:MODE 1:
IN=IN+5:RM=LR:GOTO 2420
2910 IF RM=-1 THEN 4130: REM CAN BARK
2920 IF BARK=1 THEN MODE 0:LOCATE 4,12:PRINT"Arrrgh":FOR T=0 TO 330:NEXT T:IN=IN
+5:MODE 1:CLS
2930 IF BARK=1 AND RND(1)>0.25 THEN BM=INT(RND(1)*LF)+1:GOTO 3040
2940 IF BARK=1 THEN 2970
2950 IF AT=2 THEN AT=0:GOTO 2970
2960 IF AT=0 AND RND(1)>0.45 AND RM>15 THEN 2980
2970 PRINT"Okay "N2$"":FOR T=0 TO 300:NEXT T:GOTO 820
2980 REM * MONSTER TABLE (12) *
2990 BM=INT(RND(1)*LF+1):I=INT(RND(1)*3)+1:RM=LR
3000 ON I GOTO 3010,3020,3030
3010 PRINT"Help' it s a "LF$(BM)"!":AT=1:GOTO 3040
3020 PRINT"Oh my god' it s a "LF$(BM)"!":AT=1:GOTO 3040
3030 PRINT"OH NO', it s a "LF$(BM)".":AT=1:GOTO 3040
3040 ON IN GOTO 3090,3120,3120,3120,3220,3240,3270
3050 IF AT<>1 THEN PRINT"There s no danger here'.":GOTO 2420
3060 FOR Z=1 TO OB:IF OB$(Z)=LEFT$(NO$,LEN(OB$(Z))) THEN 3080
3070 NEXT Z:PRINT "That won't work ...":GOTO 2420
3080 NO$=OB$(Z):ON IN GOTO 3100,3130,3160,3190,3220,3250,3290
3090 PRINT: PRINT"The place is full of Spooks! ..":GOTO 2420
3100 IF LO(41)=-1 AND NO$=OB$(41) THEN CLS:PRINT "The mysterious object frighten
ed it back to its own dimension!..":FP=FP+25:AT=2:CA=CA-1:GOTO 2420
3110 CLS:PRINT "DAMN' ... IT GOT ME' .. BUT IT'S GONE'...":FP=FP-20:AT=2:ST=ST-50
:IN=IN+30:E3=1:GOTO 2420
3120 PRINT: PRINT"IT S GLOWING":GOTO 2420
3130 IF LO(12)=-1 AND NO$=OB$(12) THEN CLS:PRINT"It AND - In TERROR'' ...":F
P=FP+60:AT=2:GOTO 2420
3140 PRINT"IT S DRAINED ALL MY ENERGY''.. ":GOTO 4120: REM DEATH
3150 PRINT: PRINT"ITS EYES  The're frying my brain ...":GOTO 2420
3160 IF LO(5)=-1 AND NO$=OB$(5) THEN CLS:PRINT"It retreats, CONFUSED'' .. "NO$:F
P=FP+50:AT=2:GOTO 2420
3170 GOTO 4120: REM DEATH
3180 PRINT:PRINT"GOD'' The size of that MOUTH'' ":GOTO 2420
3190 IF LO(7)=-1 AND NO$=OB$(7) THEN CLS:PRINT"It's mouth stuck UP'.. It's GOS
E''..":FP=FP+10:AT=2:GOTO 2420
3200 CLS:PRINT"GOTCHA! ...":GOTO 4120: REM DEATH
3210 PRINT: PRINT"It s howling CHILLS MY BONES ' ":GOTO 2420
3220 IF LO(7)=-1 AND NO$=OB$(7) THEN CLS:PRINT"It didn't like the look of that'.
":FP=FP+40:AT=2:GOTO 2420
3230 CLS:PRINT The claws are too much.. IT'S GOT ME!E '":GOTO 4120: REM DEATH
3240 PRINT: PRINT"The smell is terrible' ..":GOTO 2420
3250 IF LO(20)=-1 AND NO$=OB$(20) THEN CLS:PRINT"It didn t like that'.  It's gon
e ...":FP=FP+80:AT=2:GOTO 2420
3260 CLS:PRINT"Arrrrrrrgh ' It s taking me ..":GOTO 4120: REM DEATH
3270 CLS:PRINT"The force from the GREMLIN is strong - I feel weak ":GOTO 2420
3280 IF LO(33)=-1 AND NO$=OB$(33) THEN CLS:PRINT"It staggers off drunk'":FP=FP+2
5:AT=2:CA=CA-1:GOTO 2420
3290 CLS:PRINT"IT HAD NO EFFECT...":IN=IN+50:ST=ST-20:AT=2:GOTO 2420
3300 REM * CHARGE & LIGHT (13) *
3310 FOR X=1 TO OB:IF OB$(X)=LEFT$(NO$,LEN(OB$(X))) THEN 3330
3320 NEXT:PRINT"Charge What..?":GOTO 2420
3330 NO$=OB$(X):IF LO(2)<>-1 THEN PRINT"How can I..?":GOTO 2420
3340 IF LO(1)<>-1 AND NO$=OB$(1) THEN PRINT"I haven't got it..":GOTO 2420
3350 IF NO$=OB$(3) THEN PRINT"I can t do that ..":GOTO 2420
3360 IF LO(2)=-1 AND NO$<>OB$(1) THEN PRINT"Don't be silly..":GOTO 2420
3370 IF LO(1)=-1 AND LO(2)=-1 AND NO$=OB$(1) THEN PRINT"O.K  It s burn  .":EN=
100:GOTO 2420
3380 IF NO$="OFF " THEN PRINT"O.K. It's off ":P=OFF:BARK=1:GOTO 2420
3390 FOR I=1 TO OB:IF OB$(I)=LEFT$(NO$,LEN(OB$(I))) THEN 3410
3400 NEXT:PRINT"Light what  .?":GOTO 2420
3410 NO$=OB$(I):IF NO$<>OB$(3) THEN PRINT"NO$'' That was SUPER'' Do it again .":
GOTO 2420
3420 IF LO(3)<>-1 THEN PRINT"I don't have it  .":GOTO 2420
3430 IF LO(1)<>-1 THEN PRINT"I CAN'T . ":GOTO 2420
3440 IF LO(1)=-1 AND EN=0 THEN PRINT"It won't light  Out of charge''":GOTO 2420
3450 IF P=LIT THEN PRINT"It s already on . ":GOTO 2420
3460 IF LO(3)=-1 AND LO(1)=-1 AND (EN>0) THEN PRINT"O.K. It's on..":P=LIT:BARK=0
:FOR T=0 TO 300:NEXT:MODE 1:GOTO 1070
3470 GOTO 2420
3480 REM * RUN (14) *
3490 MODE 0:LOCATE 5,5:PRINT"DON'T PANIC' ":FOR T=0 TO 750: NEXT T:MODE 1
3500 I=INT(RND(1)*6)+1:ON I GOTO 3510,2570,3520,2540,2550,3560
3510 RM=N:GOTO 3570
3520 RM=S:GOTO 3570
3530 E=RM:GOTO 2570
3540 RM=W:GOTO 3570
3550 RM=U:GOTO 3570
3560 RM=D
3570 IF RM>1 THEN 3600
3580 ST=ST-10:AT=0:GOTO 820
3590 REM * REPORT (15) *
3600 WINDOW 1,40,1,25:CLS:PRINT"SPARROW STATUS REPORT: "
3610 PRINT: PRINT NO$" s Status Report     .":Z=0
3620 PRINT: PRINT"STRENGTH - "ST:PRINT:PRINT"INJURY  "IN
3630 PRINT: PRINT"YOU ARE CARRYING:-"
3640 FOR I=1 TO OB:IF LO(I)=-1 THEN PRINT:PRINT OB$(I):Z=1
3650 NEXT I:IF Z=0 THEN PRINT :PRINT"NOTHING"
3660 PRINT: PRINT"YOUR SCORE IS -";:SC=0
3670 FOR I=1 TO OB:IF LO(I)=-1 THEN SC=SC+OS(I)
3680 NEXT I:SC=SC+FP:PRINT SC:FOR T=0 TO 1000:NEXT:GOTO 820
3690 REM * BREAK & OPEN (16) *
3700 FOR I=1 TO OB:IF OB$(I)=LEFT$(NO$,LEN(OB$(I))) THEN 3720
3710 NEXT I:PRINT VB$"  what  .":GOTO 2420
3720 BOT=OB$(I):IF VB$=CO$(1) THEN 3730 ELSE 2730
3730 IF LO(8)=-1 AND NO$=OB$(8) THEN PRINT"It belonged to Pandora  .. BYEEEE ..
":FOR T=0 TO 800:NEXT:GOTO 4120: REM DEATH
3740 IF LO(13)=-1 AND NO$=OB$(13) THEN PRINT"It's empty...":GOTO 2420
3750 IF LO(20)=-1 AND NO$=OB$(20) THEN PRINT"No clues in here'..":GOTO 2420
3760 IF LO(26)=-1 AND NO$=OB$(26) THEN PRINT"WHEN'! AND I'M  !":GOTO 2420
3770 PRINT"I CAN'T DO THAT  , "N2$:GOTO 2420
3780 PRINT "NO  There's enough damage NO$ '...":GOTO 2420
3790 REM * EAT & DRINK (17) *
3800 FOR I=1 TO CM:IF LEFT$(NO$,LEN(CM$(I)))=CM$(I) AND LO(I+30)=-1 THEN 3870
3810 NEXT:PRINT VB$"  what??":GOTO 2420
3820 NO$=CM$(I):IF VB$=CO$(4) THEN 3830 ELSE 3870
3830 IF LO(33)=-1 AND NO$=CM$(3) THEN CLS:PRINT"It burnt my throat, but I enjoye
d it ' .":GOTO 3920
3840 IF LO(32)=-1 AND NO$=CM$(2) THEN CLS:PRINT "TASTY TASTY - VERY VERY TASTY
":GOTO 3920
3850 IF LO(31)=-1 AND NO$=CM$(4) THEN CLS: PRINT"Nothing stranger'.?":GOTO 2920
3860 CLS:PRINT"DON T BE SILLY   IT LL HURT'  .":GOTO 2420
3870 IF LO(28)=-1 AND NO$=CM$(5) THEN CLS:PRINT"He was a tough old Teal. ":GOTO
2920
3880 IF LO(34)=-1 AND NO$=CM$(4) THEN CLS:PRINT"Any more'   ":GOTO 3920
3890 IF LO(36)=-1 AND NO$=CM$(6) THEN CLS:PRINT"Oh where's the kid.. Eh'  ":GOT
O 2920
3900 IF LO(37)=-1 AND NO$=CM$(7) THEN CLS:PRINT"They've stuck in my teeth  OUCH
'":GOTO 2420
3910 CLS:PRINT"You must be JOKING!'  ":GOTO 2420
3920 IF CT(X)=5 THEN IN=100:IF CH(I)=1 THEN HU=100
3930 ST=ST+CD(I):CA=CA+1:LO(30+I)=-6
3940 GOTO 2420
3950 REM * READ (18) *
3960 FOR X=1 TO OB:IF RD$(I)=LEFT$(NO$,LEN(RD$(I))) THEN 3980
3970 NEXT X:PRINT VB$  What  !":GOTO 2420
3980 NO$=CO$(X):IF LO(20)=-1 AND NO$=OB$ 20) THEN GOSUB 4460:GOTO 2420
3990 IF LO(16)=-1 AND NO$=OB$(16) THEN GOSUB 4400:GOTO 2420
4000 IF LO(6)=-1 AND NO$=OB$(6) THEN PRINT"Can t the're corrupted. ":GOTO 2420
4010 IF LO(4)=-1 AND NO$=OB$(4) THEN PRINT"Can t It s burnt..":GOTO 2420
4020 IF LO(40)=-1 AND NO$=OB$(40) THEN GOSUB 4440:PRINT:PRINT"It s all in code.
```

```
*FOR Y=0 TO 500:NEXT:GOTO 2420
4030 PRINT"I CAN'T READ  .  ":GOTO 2420
4040 REM * DESTROY (19) *
4050 IF P(X)1 THEN PRINT"There's nothing here!!..":GOTO 2420
4060 PRINT"It didn't work.  What now ?  ":GOTO 2420
4070 X=INT(RND(1)*3)+1:ON X GOTO 4080,4090,4100
4080 PRINT: PRINT"I'm waiting  !":PRINT CHR$(7):RETURN
4090 PRINT: PRINT"Have you gone to sleep ...?":PRINT CHR$(7):RETURN
4100 PRINT:PRINT"COME ON.. WAKE UP ..." PRINT CHR$(7):RETURN
4110 REM * END GAME (20) *
4120 FOR I=0 TO 800:NEXT:CLS:MODE 0:LOCATE 1,12:PRINT"You've goofed it!!":FOR I
=0 TO 800:NEXT:MODE 1
4130 PRINT: PRINT"Your score was:- ":SC=0
4140 FOR X=1 TO OB:IF LO(X)=-1 THEN SC=SC+50(X)
4150 NEXT:PRINT:PRINT SC#PP:END
4160 REM * SUCCESS (21) *
4170 CLS:PRINT:PRINT"CLASSIFIED INFORMATION - SPARROW -":PRINT
4180 PRINT"SCIENCE OFFICERS - EYES ONLY- ":PRINT
4190 PRINT"Disengage Zebra and  ISOLATE' Sparrow ":PRINT
4200 PRINT"Zebra in distorted dimension.. DANGER!!":PRINT
4210 PRINT"ACTION TAKEN:-":PRINT
4220 PRINT"ALERT ABORTED - ALL SECTORS CLEARED":PRINT
4230 PRINT"Destroyer squadron diverted..":PRINT
4240 PRINT"Colossus (Towing Vessel) dispatched.":PRINT
4250 PRINT"YOUR BRIEF:-":PRINT
4260 PRINT"await Colossus ":PRINT
4270 PRINT"Escort according to Colossus orders ":PRINT
4280 LOCATE 8,25:PRINT"* Press Space Bar to turn page. *"
4290 a$=INKEY$:IF a$="" THEN 4290
4300 CLS:PRINT"COMPANY REPORT:-":PRINT
4310 PRINT"CLASSIFIED INFORMATION - SPARROW -":PRINT
4320 PRINT"SCIENCE OFFICERS   EYES ONLY -":PRINT
4330 PRINT"EXTREME ONLY ACTIVITY":PRINT
4340 PRINT CHR$(75)CHR$(101)CHR$(121)CHR$(98)CHR$(111)CHR$(97)CHR$(114)CHR$(100)
" Sector.":PRINT
4350 PRINT"ACTION:-":PRINT
4360 PRINT"- ARREST OR TERMINATE WITH PREJUDICE. -":PRINT
4370 PRINT"GOOD LUCK!...  ":PRINT:PRINT:END
4380 CLS:MODE 0:PRINT:PRINT:PRINT:PRINT:PRINT:PRINT"    VACUUM  !":FOR T=0 TO 20
00:NEXT:MODE 1:GOTO 4120: REM DEATH
        No       Ye..

4400 MODE 2:PRINT"          MEDICAL LOG   -    ZEBRA   -":PRINT
4410 PRINT"SUBJECT:-          DATE:          DIAGNOSIS:-          TREATMENT:-":PRI
NT
4420 PRINT"CREW 3.            19/4/20        STRESS               EXTENDED LEAVE":PR
INT
4430 PRINT"ENGINEER 2.        19/4/20        INTOXICATED          SOLITARY":PRINT
4440 PRINT"SKIPPER.           19/4/20        PHYSICAL             RAZ":PRINT
4450 PRINT"ENGINEER 2.        20/4/20        INTOXICATED          SOLITARY":PRINT
4460 PRINT"CREW 4.            20/4/20        PHYSICAL             RZZ":PRINT
4470 PRINT"1st OFFICER.       20/4/20        TOOTHACHE            2 cc PULSE 4":PR
INT
4480 PRINT"COOK.              21/4/20        D.O A.               AUTOPSY":PRINT
4490 PRINT"TECHNICIAN.        21/4/20        NERVOUS B/DOWN       OBSERVATION":PRI
NT
4500 PRINT"ENGINEER 2.        21/4/20        INTOXICATED          SOLITARY":PRINT
4510 PRINT"ENGINEER 2.        22/4/20        D.O A                AUTOPSY":PRINT
4520 PRINT"Press Space Bar To Turn Page.. "
4530 a$=INKEY$:IF a$="" THEN 4530 ELSE MODE 1:RETURN
4540 MODE 2:PRINT"          LOGBOOK   -   ZEBRA   -   CONFIDENTIAL":PRINT
4550 PRINT"DATE:-             REPORT:  ":PRINT
4560 PRINT"20/4/20            Power loss in auxiliary plant room  ACTION:- System rep
aired.                        Engineer 2. reprimanded for drunkenness  ACTION:- Solita
ry ":PRINT
4570 PRINT"                   Periodical computer malfunctions - All Stations report
errors.                       ACTION:  Diagnostics in operation.":PRINT
4580 PRINT"21/4/20            Radio communications damaged beyond repair. ACTION:- Em
ergency                       measures underway."
4590 PRINT"                   All sections report computers unusable  ACTION:- Inves
tigating.                     Power fluctuations in all areas  ACTION: N.O.S."
4600 PRINT"                   Cook found dead in restroom. Autopsy reveals murder.
                              ACTION:- Investigation follows  No motive for attack.":
PRINT
4610 PRINT"22/4/20            Engineer Baker found dead at Turkey Crossing - MURDER -
                              - Cook Missing!  ACTION:  CREW ARMED - 2 man PATROLS "
:PRINT
4620 LOCATE 5,25:PRINT"* Press Space Bar to turn page. *"
4630 a$=INKEY$:IF a$="" THEN 4630 ELSE MODE 1:RETURN
4640 CLS: ZONE 2:FOR U=1 TO 100
4650 C=RND(1)*100:IF C <40 OR C>122 THEN 4650 ELSE PRINT CHR$(C);:NEXT:RETURN
4660 REM * THE STORY (22) *
4670 CLS:PRINT"    The fighter Sparrow closed in on lethargy. A last minute bur
n moved her in to an orbit around the station   Hanging there motionless alongsid
e two others either class she rested after a long tour "
4680 PRINT:PRINT"The other two fighters, Clipper and Ion were dead in space man
 crewless, not a sign of life from them. Neither the lifesupport or navigation s
ystems showed anysign of activity."
4690 PRINT:PRINT"Sparrow's scanners got nothing back fromthe station either whic
h was strange.  With a crew of twelve plus the crews of Clipper and Ion aboard
the scanners mustpick up something, life force, anything."
4700 PRINT"Sparrow had been on another expedition  chasing outlaws when the orde
rs had come in   The company made it clear that thisassignment was unlike any oth
er and thatextreme caution was needed."
4710 LOCATE 5,25:PRINT"* Press Space Bar to turn page. *"
4720 a$=INKEY$:IF a$="" THEN 4720
4730 CLS:PRINT:PRINT"COMPANY REPORT:-"
4740 PRINT:PRINT"SUBJECT - SPACE STATION ZEBRA"
4750 PRINT:PRINT"Communications ceased - 04 27 - 24/4/20"
4760 PRINT:PRINT"No distress recorded "
4770 PRINT:PRINT"ACTION TAKEN: "
4780 PRINT:PRINT"Ion dispatched - 08 45 - 24/4/20"
4790 PRINT:PRINT"Ion   Zebra - 22.00 - 19/8/20"
4800 PRINT:PRINT"Ion Com's ceased - 23.50 - 19/8/20"
4810 PRINT:PRINT"No distress recorded."
4820 PRINT:PRINT"All Commands and Stations alerted."
4830 PRINT:PRINT"STATUS:- RED"
4840 LOCATE 5,25:PRINT"* Press Space Bar to turn page. *"
4850 A$=INKEY$:IF A$="" THEN 4850
4860 CLS:PRINT:PRINT"Clipper diverted - 00 03 - 19/8/20"
4870 PRINT:PRINT"INFO:-"
4880 PRINT:PRINT"All Commands and Stations report normal activity in their secto
rs."
4890 PRINT:PRINT"Clipper - Zebra - 11 10 - 18/8/20"
4900 PRINT:PRINT"CLIPPER REPORT:- LAST - 14.50 - 18/9/20"
4910 PRINT:PRINT"Ion neutralized "
4920 PRINT:PRINT"No damaged sustained - Personnel missing.Life support and commun
ications normal.Systems damage seen  Energy source nil.Investigation of statio
n Zebra follows."
4930 PRINT:PRINT"Communications ceased "
4940 PRINT:PRINT"No distress reported "
4950 LOCATE 5,25:PRINT"* Press Space Bar to turn page. *"
4960 A$=INKEY$:IF A$=""THEN 4960
4970 CLS:PRINT:PRINT"CLASSIFIED ORDERS - SPARROW -"
4980 PRINT:PRINT"SCIENCE OFFICER - EYES ONLY"
4990 PRINT:PRINT"Enc:  Zebra - Ion - Clipper
                  Reports to date "
5000 PRINT:PRINT"YOUR BRIEF:-"
5010 PRINT:PRINT"Investigate and Secure Station Zebra."
5020 PRINT PRINT"All other considerations terminated."
5030 PRINT:PRINT"Crew expendable."
5040 PRINT  PRINT:PRINT"ALTERNATIVE ORDERS:-"
5050 PRINT:PRINT:PRINT"TERMINATE ZEBRA WITH EXTREME PREJUDICE "
5060 LOCATE 5,25:PRINT"* Press Space Bar to turn page  *"
5070 A$=INKEY$:IF A$=""THEN 5070
5080 CLS:PRINT:PRINT"ADDENDUM:-"
5090 PRINT:PRINT"* TARGET ZEBRA *"
5100 PRINT:PRINT"DESTROYER SQUADRON DISPATCHED"
5110 PRINT:PRINT:PRINT"ORDERS:-"
5120 PRINT:PRINT:PRINT"AUTOMATIC TERMINATION ON ARRIVAL"
5130 LOCATE 5,25:PRINT"* Press Space Bar to turn page  *"
5140 A$=INKEY$:IF A$=""THEN 5140
5150 CLS: PRINT:PRINT"The reports spoke for themselves. What  had happened to Io
n and Clipper could   well happen to other ships and crews    The only reason Sp
arrow was assigned wasbecause she had the most experienced of science officer in
 the fleet "
5160 PRINT:PRINT"It was strange that Ion or Clipper had  not got back another re
port after they  went to investigate station Zebra.  The auto systems would hav
e taken care of  that "
5170 PRINT:PRINT"And why were the auto systems and minor systems out of action
 The nuclear piledrivers were dead, absolutely lifeless  if that was possible "
5180 PRINT:PRINT"Sparrow rested easily against Zebra withhatches kissing gently
before locking and securing  Life support systems were equal and therefore wi
th weren't needed"
5190 LOCATE 5,25:PRINT"* Press Space Bar to turn page  *"
5200 A$=INKEY$:IF A$=""THEN 5200
5210 CLS:PRINT"As the hatches clear you became aware ofthe reports on Ion and Cl
ipper.  Choice of entering Zebra has slipped  It's your duty as a science officer
 of the fleet, and clear, that regardless of your own  safety, that Zebra be inv
estigated "
5220 PRINT:PRINT"The alternative is to destroy both Zebra and fighters and wha
ever is contained  within  The Council cannot permit Zebra to remain unknown withi
n the great plan of things "
5230 PRINT:PRINT"Seven years ago you performed a similar function, scapegoat for
 the Council, and that's why they called on you again."
5240 PRINT:PRINT"But remember, your crew on Sparrow rely on you  If you fail, th
ey die along withyou, and so does Sparrow "
5250 PRINT:PRINT"Sparrow - My friend and companion "
5260 LOCATE 5 25:PRINT"* Press Space Bar to turn page  *"
5270 A$=INKEY$:IF A$=""THEN 5270
4290 CLS:PRINT:PRINT"Instructions are:-"
4290 PRINT:PRINT"GET - DROP - ON - USE - CHANGE - LIGHT -  READ - GUN - REPORT -
 BREAK - OPEN - EAT - LOOK - DRINK - DESTROY"
5300 PRINT:PRINT"Movements:-"
5310 PRINT:PRINT"GO (N)ORTH":PRINT:PRINT"GO (S)OUTH":PRINT:PRINT"GO (W)EST":PRIN
T:PRINT"GO (E)AST":PRINT:PRINT"GO (U)P":PRINT:PRINT"GO (D)OWN"
5320 LOCATE 5,25:PRINT"* Press Space Bar to continue. *"
5330 A$=INKEY$:IF A$=""THEN 5330
5340 RETURN
```

The adventure continues. . .

More mythical goings-on on the QL. . . all from the keyboard of ***Philip Sproston***

Mostly listing this week. . . but don't worry, it's well worth the effort! However, you can send a formatted microdrive (plus £3.50) to me at Marlose, Borrowby, Thirsk, North Yorkshire, and I'll send you back a copy of the game.

The remainder of the listing will be printed next week.

[illegible]

continued next week

Driven by sound

Music brought to you on the BBC B by ***Cy Noble***

This is the first in a series of three programs for creating music on the BBC B. The next one will take the tune data (written by this one) from cassette or disc and write a Basic program version of the tune. The third program uses the same data to play the music via machine code interupts so you can use it in games or whatever.

After you've typed in the programs (and saved them) and debugged them you'll have a means of writing music easily and quickly for performance. If you don't feel up to doing all that work then send £10 to me for a cassette containing the entire suite of programs. If you send £11.50 you get a five inch disc with all the programs plus two demo tunes plus all three articles in this series in Wordwise format. A three inch disc costs £15 (because they are more expensive for me to buy!)

The first program stores the notes created in a one by four matrix (array) and keeps track of how many notes are in the tune in the variable *notes'*. Rather than try to give you a blow by blow description of how the program works, I will tell you how to use it.

The first thing to do is create some suitable sound envelopes and there is a menu driven envelope designer within the program. To reach it Press *'C' <Return>* in response to the *first* sound parameter asked for in the main input section. Remember you will not hear the demo note until you actually select a parameter. The User Guide may help you to understand this section but experiment will teach you more.

Above the main input window is a coloured help window to remind you of the various commands available. All these command options only work on the *first* parameter input. If you make a mistake you get the opportunity to do it again. The program is plentifully supplied with prompts and boob traps and, once debugged, *escape* will always abort whatever section you're in and return you to the main input menu though it's better to use the escape routes provided. *'n' <return>* will change the help window to the note window which displays the note values for all the octaves available. *'h' <return>* brings the help window back.

'Pxxx' <return> will play back from note *xxx* or *P <return>* plays back from the beginning. While the notes are playing their parameters are displayed in the input window together with a reference number for each note. That is the number used for editing, deleting, play back, etc.

'Exxx' <return> allows you to edit the note with that number of *'E' <return>* with no number takes you to the editing section which will ask for the number of the note to be edited.

'Dxxx' <return> performs similarly and asks for confirmation before deleting the note.

'Ixxx' <return> lets you insert a note after note number xxx. It displays and plays note number xxx then asks for the parameters of the note to be inserted. If you confirm the new note it will be inserted at that point and the music will be played back from a few notes before the inserted one.

'X' <return> allows you to synchronise up the three notes on channels one to three, you'll be asked how many notes and their numbers. Do not try to sync channel zero as it will appear to work for while then hang up the program. You may be able to get out of the hang up with *escape* but sometimes only *break* will work and then you've lost all the music data written so far.

'S' <return> allows you to save the tune data to disc or cassette. Just in case you've used the 'sync' facility the first two bytes of each note are compressed into one byte. They are expanded again when used by any of the three programs. This allows a considerable saving in memory requirement.

More notes and the remainder of the listing next week.

```
10REM Music data creator program
20REM By Cy Noble
30REM 323 North Circular Rd.
40REM London N13 5AH
50REM ONERROR LFLAG=notes%:GOTO 270
60REM ONERRORPROCerrline:END
70REM While debugging use line 60
80REM After debugging delete 50 AND
90REM all of the errline procedure
100REM (lines 4830 to 5110) and
110REM then use line 50
120C%=5:D%=13:E%=21:F%=35:G%=33:A%=41:
   B%=49
130PROMPT$="ABCDEFGHIJKLMNOPSabcdefghi
   jklmnpqs"
140MODE7
150PROCinstructions
160LFLAG=0
170DIM N%(250,3),H%(1,3),E%(16)
180FORN%=0TO250
190N%(N%,0)=1:REM Channel 1
200N%(N%,1)=1:REM Envelope 1
210NEXT
220CLS
230PRINT"Load previous tune ?"
240PROCyesno:IF Y%<>0 PROCload
250PRINT"Load previous envelopes ?"
260PROCyesno:IF Y%<>0 PROCloadenv
270PROCinput
280MODE7
290END
300:
310DEFPROCinstructions
320PROCtitle("MUSIC DATA CREATOR")
330VDU28,28,0,24,39,2
340FORA=2TO24
350VDU132,157,135:PRINT
360NEXT
370VDU28,28,5,24,39,2
380PRINT "Enter numbers as directed an
   d the"
390PRINT'corresponding notes will
   be played"
400PRINT
410PRINT CHR$129;"P<N>";CHR$135;
420PRINT"= Playback from N
430PRINT CHR$129;"E<N>";CHR$135;
440PRINT"= Edit note N"
450PRINT CHR$129;"I<N>";CHR$135;
460PRINT"= Insert after N"
470PRINT CHR$129;"D<N>";CHR$135;
480PRINT"= Delete note N"
490PRINT CHR$129;"Note:";CHR$135;
500PRINT"N is optional"
510PRINT CHR$129;"<RETURN>";CHR$135;
520PRINT"= Repeat the last note"
530PRINT CHR$129;"R";CHR$135;
540PRINT"= Repeat a section"
550PRINT CHR$129;"S";CHR$135;
560PRINT"= Save the tune"
570PRINT CHR$129;"X";CHR$135;
580PRINT"= Synchronise notes"
590PRINT
600PRINT"The saved data will have the
   number"
610PRINT'of notes (256 max) as the fir
   st"
620PRINT"byte and the rest will be gro
   ups"
630PRINT"of eight bytes per note which
   is"
640PRINT"the form needed by most machi
   ne code"
650PRINT"interupt routines using ONWOR
   D 7"
660PRINT CHR$130;"<SPACE> TO CONTINUE"
670REPEATUNTILGET=32
680ENDPROC
690:
700DEFPROCinput:VDU26
710notes%=LFLAG
720LOCAL channel,env,note,length,t%,G$
   ,U$
730PROChelp(0,24,39,6)
740b%=0:CLS
750IF notes%>b% PROCplayback(b%,notes%
   )
760t%=notes%:IF t%>17 t%=17:PRINT
770N$="":b%=0
780PRINTTAB(0,t%);SPC(29)
790PRINTTAB(0,t%);notes%;
800PRINTTAB(4,t%)"&";:INPUTN$:VDU11
810IFN$="" AND notes%>0 THEN FOR R%=0T
03:N%(notes%,R%)=N%(notes%-1,R%):NEXT:GO
TO1020 ELSE IFN$="" PRINT"No notes yet":
GOTO 800
820L=LEN(N$):IFL=1 b%=0:GOTO840
830b$="":FOR b%=2TO L:b$=b$+MID$(N$,b%
,1):NEXT:b%=VAL(b$)
840M$=LEFT$(N$,1):M=ASC(M$):IF M>ASC"Z"
M=M EOR 32:M$=CHR$M
850IFM$="P" PROCplayback(b%,notes%):GO
TO760
860IFM$="E" PROCedit(b%):GOTO750
870IFM$="D" PROCdelete(b%):GOTO760
880IFM$="S" PROCsave:GOTO760
890IFM$="X" PROCsync:GOTO760
900IFM$="I" PROCinsert(b%):GOTO760
910IFM$="R" PROCrepeat:GOTO760
920IFM$="N" PROCnotes(0,24,39,6):GOTO7
60
930IFM$="H" PROChelp(0,24,39,6):GOTO76
0
940IFM$="C" PROCenv:PROChelp(0,24,39,6
):GOTO760
950IF INSTR("0123456789PEDSXIRHNC",M$)
=0 PROCboob:GOTO760
960channel=EVAL("&"+N$)
970INPUTTAB(9,t%),env:VDU11
980INPUTTAB(14,t%),note
990INPUTTAB(19,t%),length:VDU11
1000N%(notes%,0)=channel:N%(notes%,1)=e
nv
1010N%(notes%,2)=note:N%(notes%,3)=leng
th
1020PRINTTAB(0,t%)SPC(29)
1030PRINTTAB(0,t%);notes%
1040PRINTTAB(4,t%);"&";~N%(notes%,0);
1050PRINTTAB(10,t%);N%(notes%,1);
1060PRINTTAB(15,t%);N%(notes%,2);
1070PRINTTAB(20,t%);N%(notes%,3);
1080PRINTTAB(23,t%);"OK ?";
1090SOUND N%(notes%,0) MOD256,N%(notes%
,1),N%(notes%,2),N%(notes%,3)
1100PROCyesno
1110IF Y%=0 PROCboob:GOTO 770
1120PRINT:notes%=notes%+1
1130GOTO760
1140ENDPROC
1150:
```

Arcade Avenue



Hall of Fame

After the fun with *Finders Keepers* a few weeks ago (September 12), Gregg Shordoc of Bootle writes that he tried out a modified version of the message finder on some Amstrad programs Needless to say we wouldn't be printing this if it hadn't worked To see silly messages and playing hints enter this and play Amsoft's *Scout steps out* When you've done that Gregg would like an infinite cornflake (lives) poke

```
5 mode 2
10 memory 18080
20 load "code"
30 for f=16344 to 17398
40 if peek(f)<31 then 60
50 print chr$(peek(f))
60 next
```

Scout is a marvellous game. It has an extraordinary sense of humour that stops it becoming just another platform game, eg, the way the scout tries to climb the tents on screen one, the crunchy noises as he walks across sand – little touches that make the game special rather than just the bare minimum necessary to get Amsoft to publish it.

Following on from that plug, Colin Bewes of Banstead says that since we publish people's best-buy games why don't I reveal my own particular 'hall of fame' For a bit of fun I gave it a go to mark the recent passing of the first anniversary of the column

The games industry has come a long way from its origins All we had at first were conversions of *Space Invaders*, etc It quickly became apparent that home games could not compete graphically with the arcades but had tremendous scope for adding complexity and richness of plot

With the exception of the work of a few companies such as Atarisoft and Superior writing for the BBC, and US Gold's range, very few pay machine games are now being converted Of those that have appeared I find it hard to pick favourites since, having wasted a fortune on them, I like any decent implementation *Moon Cresta*, *Tankbusters*, *Defend or Die*, video pool/snooker are all never far from my micros I would include *Summer* and *Winter Games* and Melbourne's *Fist* here – from the letters I get *Fist* is everyone's current favourite

Instead of conversions of course we now have megagames such as *Knight Lore*, *JSW*, *Elite*, etc Of these there are actually very few that I ever bother to load up these days, despite the awe with which I first viewed them

Perhaps it is the result of seeing so many games yet having little time to get very deeply into any one of them Alternatively perhaps it's part of a general backlash against the increasing complexity

Write in if you agree or disagree and we'll see what the world thinks

Of the arcade adventures my favourites are a mixed bunch but in fact have much in common – *Dun Darach*/*Marsport*, *Avalon*/*Dragontorc*, *Castle Quest*, *Staff*/*Entombed*, etc, and the *Wally* series all have an addictive combination of arcade fun and adventure problem solving

Objects appear in the right places, problems have (relatively) sensible solutions and there is a realistic flexibility about the things you can do They are all steps towards the first computer generated interactive movie

I will also call *Halls of the Things* an arcade adventure since I don't know where else to put it. It looks dated now but still conjures more suspense than any game with the possible exception of the excellent *Alien*

Return of the Things was disappointing The monsters were made so vicious the only way to win was to go onto auto-fire, which you could do without running out of magic, and bisto! the skill had gone

Of strategy games I have already written about *Chaos* and of course you can never forget *Football Manager* or CRL's *Formula One* – exactly the same game idea as *FM* but with different trappings and jazzier graphics I haven't seen Ariolasoft's *Mail Order Monsters* or *Archon II* yet, but they sound pretty good

The final type are releases that are of high enough quality, addictiveness and simplicity to warrant conversion the other way – from the micro on to the big arcade machines These include *Stop the Express*, most from Taskset especially *Pipeline II*, and *Pitstop II*, *Impossible Mission*, and *Highway Encounter*, the latest from Vortex I've recently seen the Amstrad conversion of this and it is brilliant.

Like *Knight Lore*, the graphics leap out with crystal clarity in the higher res and look like they were designed with the CPC in mind The game itself has an original and fascinating atmosphere, truly alien to look at and strikes a nice balance between being easy enough to be encouraging, yet enjoyable enough to keep you playing even if you've finished it once

In fact I'm off to have another go now.

Tony Kendle

Marsport from Gargoyle Games



Tony Bridge's Adventure Corner



Pure puzzle

There is much variety in adventures nowadays and we have a couple of examples this week that illustrate the two poles towards which most new text adventures seem to be moving

Sophisticated command input is the norm nowadays, but a verb/noun input is just as viable, albeit a little inflexible. Probably the most well-known writer to use this form, and he still uses it, is Scott Adams As I said last week when talking about Sinclair's *The Pawn*, even when offered a complex sentence input I usually use the two-word form – I find it quicker and not so prone to typing errors, which are quick to correct anyway I find myself wondering, of course, how much memory has been used up in coding the necessary responses, although it's true that Scott Adams and Adventure International seem to have used the extra memory available nowadays to create graphics rather than more complex scenarios

Richard Sleep has written a new adventure for the C64 which he proudly describes as a 'Scott Adams-style text adventure with some graphics and sound' It is on disc or tape, and there is a Vic-20 version too

The program is called *Animal Magic*, and concerns your quest for the baby, which has been grabbed from the nursery by a passing golden eagle – an everyday story, you'll agree Peter has aimed for 'quality rather than quantity', so has adopted the verb/noun form of input. There are some 40 locations and 64 objects.

The author has ensured that there is a problem to be solved in just about every location, and objects to be found in every room, the uses for which must be puzzled out This type of adventure is completely devoid of any distractions like character inter-reaction, or humorous remarks from the computer – *Animal Magic* is pure puzzle, and very enjoyable it is

The adventure looks attractive, making much use of bit-mapped graphics and the odd bit of sound (the baby has a particularly life-like wail as it is carried away) At many locations a well-drawn graphic pops up depicting a creature or object present at the location, and these provide not only a bit of colour but also a bit of atmosphere that is, frankly, missing from the rest of the game

However puzzle aventures such as this do not, really, *need* much atmosphere, as the puzzle is the thing

Animal Magic is one of those wonderful games in which the player progresses steadily through the puzzles, finding an object and actions which will solve the problem in order to get on to the next one – and then, given the next problem, the player finds an object is needed that was discarded 20 locations ago A very enjoyable and uncomplicated adventure, and great value at just £8 00 from Richard Sleep, 275 St Margaret s Road, Twickenham, Midds

State of the art parser

Infocom Inc cannot be said to favour the two word, verb/noun input – in fact, just the opposite, as their parser is just about state-of-the-art (though not as good as that in *The Pawn*) Although the player has to be more wary of typing errors and logical *non sequiturs*, nevertheless, complex sentences can certainly get round those awkward moments when you are trying something a little out of the ordinary that may not be covered by any easily-discovered combination of verb/noun Infocom adventures of course have the added advantage of being exclusively disc based, so that memory constraints are not a problem, you want another page full of description? Then just fire up the disc drive and load in a few hundred bytes of text

Infocom has called its new adventure, *Wishbringer*, an Introductory Level program This may mean beginner to most people, but Infocom are certainly not going to let you get away as easily as that! The usual Infocom packaging (28-page instruction manual, playing map, letter – not to be opened until instructed – and the Wishbringer stone, which glows in the dark) accompanies an adventure which, like *Animal Magic*, will certainly be enjoyed by the novice, but which will also give joy to the more experienced.

In *Wishbringer*, you're a postal clerk in a small seaside village called Festeron. You deliver a strange envelope to a magic shop (you are given a certain amount of time for this), and discover that an old woman's black cat has been kidnapped by the 'Evil One' The old woman asks for your help, and when you leave the magic shop, you find yourself trapped in a nightmare world Your once-quiet town is now full of nasty trolls, vultures, fortress-like towers and assorted wickedness You become entangled in the struggle between Good and Evil, extraordinary help is found only in unusual places

Spell casting

The map supplied is comprehensive and helpful in the first stages, but can be cold comfort – there are more things to be done in the first stage than would be apparent at first In fact the magic shop is a watershed It is easily found, but once visited, there is no way back, the player has to go forward to the second stage, and some objects from the first stage are necessary in the second These objects are mostly to do with spell casting, which forms a large part of *Wishbringer* and which become essential For example, soon after leaving the magic shop, you maybe thrown into jail – as far as I could see there is no way out short of casting the freedom spell. However, to cast this spell, you must be in possession of the candy

So, a lot of thought is required, and much use of the *Save* facility But the problems are logical and not too hard to overcome with a bit of thought – and the storyline, as usual with Infocom, is wonderful Written by Brian Moriarty, it is the usual mix of exquisite prose and infuriating (though not impossible in this case!) problems The usual Infocom humour is in full swing top – at some point you will meet a troll, and the program goes on to say "A less original story would probably refer to an ugly, gnome-like creature as a troll' – you'll come across this troll asking for a toll at a bridge, and the program is just dying to say 'ask not for whom the troll tolls' The author seems to be able to anticipate your every command, as I have found with all Infocom adventures

Wishbringer is a world away from *Animal Magic* – the packaging is superb and the adventure itself is much more sophisticated

Adventure Helpline

Going bananas? If you are stuck in an Adventure with nowhere to turn do not despair – help is at hand

Fill in the coupon explaining your problem send it to us and a fellow adventurer may be able to help

Remember – the system only works if those adventurers who have solved the puzzles get in touch Every week is Save An Adventurer Today (SAAT) week!

Adventure .... on (Micro) ....
Problem ....
Name ....
Address ....

CLASSIFIED

Semi-display — £7 per single cc (inc VAT)
Lineage — 30p per word (inc VAT)

CALL DAVID OSEN on *01-437 4343* FOR SEMI DISPLAY ADVERTISING

SOFTWARE

CLASSIFIED ADVERTISING RATES:

Line by line 30p per word minimum 20 words

Semi-display £7 per single column centimetre minimum length 2 cm (Please supply A/W as PMT Or supply rough setting instructions)

These rates include VAT

Conditions All copy for Classified section must be pre-paid Copy date 7 days before publication

If you wish to discuss your ad PLEASE RING David Osen 01-437 4343

Here's my classified ad.

(Please write your copy in capital letters on the lines below)

		Please continue on a separate sheet of paper	

I make this ______ words at ______ per word so I owe you £ ______

Name ______

Address ______

Telephone ______

Please cut out and send this form to Classified Department, *Popular Computing Weekly*, 12 13 Little Newport Street London WC2H 7PP


SPECIAL XMAS OFFER!
NOTE OUR PRICES AND WATCH
2 GAMES (WORTH £10) WITH EVERY REPAIR
REPAIRS BETWEEN £9 AND £20
OTHERS FOLLOW THE LEADER
EXPRESS SPECTRUM & BBC REPAIRS!
1st in all U.K. with While-u-Wait repairs!
with INTERNATIONAL repair service!
to charge LOW PRICES for the smaller repairs! (e.g. £9 for keyboard faults)
FOR SPEED – "One firm at least can effect any necessary repairs over the counter in 45 minutes. Based in Manchester, MANCOMP can offer what is arguably the FASTEST turnaround in the business to personal callers" CRASH Magazine JUNE 1985
FOR LOW PRICES – "My Spectrum blew recently. I took it to MANCOMP who fixed it in 8 minutes! and for less than £10! They are local, 'clued up', and blindingly efficient!" 4 HEATONS DIGEST
FOR REPUTATION & HELPFULNESS – "I have come across a firm that will be more than willing to advise you as to how to remedy your problems. They are called MANCOMP and as well as repairing faulty Spectrums are also quite willing to discuss your problems with you and offer reasonably cheap and more importantly CORRECT CURES" Phil Rogers POPULAR COMPUTING WEEKLY JAN 85
FOR PROFESSIONALISM – "Of all the repair companies 'Sinclair User' spoke to, MANCOMP seemed the MOST PROFESSIONAL when it came to advice and a helpful attitude" AUG 85
FOR HONESTY – We let you watch your computer being repaired and if there is nothing wrong with it, we will tell you!!!
THIS IS WHY Spectrum users from London, Cornwall, Scotland, Birmingham, Liverpool, Coventry, Leicester, Glossop, I.O.M. etc. AUSTRALIA, AUSTRIA, BELGIUM, EGYPT, EIRE, GERMANY, HOLLAND, KUWAIT, NORWAY, PAKISTAN, PAPUA NEW GUINEA, SAUDI ARABIA, SWEDEN, SWITZERLAND and ZIMBABWE – send their Spectrums to MANCOMP for repair!
24 TURNAROUND
NO-QUIBBLE GUARANTEE
NO HIDDEN COSTS
EXTRA SPECIAL DISCOUNTS FOR EDUC INST., H.M. FORCES, CHARITIES, HOSPITALS, ETC!
WHY DELAY?
SEND YOUR SPECTRUM TO MANCOMP FOR THE FASTEST AND CHEAPEST REPAIR SERVICE AROUND!
MANCOMP LTD
Printworks Lane, Levenshulme, Manchester M19 3JP
Phone 061-224 1888
OR 061 224 9888
OPEN MON - SAT 9am to 7pm
The 1st choice
SPECTRUM REPAIR SERVICE
£18 all in price for Spectrum/Spectrum plus
ALSO HIFI/TV repairs, electrical contracting and video rental. Call in or send computer with details of fault, and cheque/PO, made out to
Chartist Engineering Ltd, Rise Park Video, 221 Pettits Lane Nth, Rise Park, Romford, Essex. (Just off the Eastern Avenue)
Tel. (0708) 63214
BBC SPECTRUM REPAIRS
SUREDATA (PCW)
Computer Service
Tel: 01-951 0124
TO HIRE A COMPUTER and/or peripherals by the week or month please ring 01-607 0157 or 01 997 6457. We specialise in BBC and Amstrad computers. Computer Hire Services, 294a Caledonian Rd, London N1 1BA
COMPUTER REPAIRS
Computer Repair Centre
Have you got problems with your computer? Then call us for
Commodore, BBC, Spectrum, Dragon
Mail order or call in
Enfield Communications
135 High Street, Ponders End, Middx
Tel 01 805 7772
SCOTLAND'S No 1
For home and personal computer repairs
Specially fast Spectrum service!
Same day for most faults
1 hour if delivered personally
Free estimates
MICRO-SERV
SINCLAIR REPAIR SPECIALIST in Birmingham
Spectrum £20 inc parts
Interface 1 £18
Also C64, VIC20, BBC's and others
B. G. Micro-Tek Electronics
1908 Dudley Road
Winson Green
Birmingham B18 4DZ
Tel 021 454-4887
Computer Repairs in Southend
Spectrum Plus £19.95
Spectrum K/B faults £12.33
Interface 1/2 £18.95
New Spectrum power supply £9.95
C64/Vic 20 from £12.95
Above prices include parts, post & packing. All repairs are guaranteed 3 months. Call in or phone for more details.
MINNIE MICRO ELECTRONICS
12 EASTERN ESPLANADE, SOUTHEND, ESSEX
Tel: (0702) 62033/615809
OPEN 7 DAYS A WEEK
AMSTRAD AND BBC s/w for hire. Keen prices, extensive lists, for more details write M Ryall, 1565 Stratford Road, Hall Green, Birmingham, B28 9JA
CHILTERN COMPUTER SERVICE
CHILTERN COMPUTER CENTRE
SPECTRUM REPAIRS
R. A. ELECTRONICS
COMMODORE REPAIRS by Commodore approved engineers. Vic 20 Modulators £6.50, Vic 20 from £14.50, CBM64 etc. for more details write or tel. G. C. Bunce & Son, 36 Burlington Road, Burnham, Bucks SL1 7BQ. Tel 06286 61696
FREE SPECTRUM REPAIRS?? SEE MANCOMP AD ON THIS PAGE
SINCLAIR & ACORN REPAIRS BY INTERSERVICE ELECTRONICS
FAST COMPUTER REPAIRS
VIDEO VAULT INTERNATIONAL 10★ REPAIR SERVICE
Spectrums repaired for £19.95 inc. Parts, Insurance and P & P. No Hidden Extras.
BBC, Commodore 64, Vic 20, Atari Quoted for
Are you fed up with waiting weeks for your Home Computer to be repaired!!!
Why not try the Experts, we offer a full repair service on any Home Computer
All repairs carry a full 3 months guarantee, plus on every Spectrum repaired we send you a free game worth £5.95 for your enjoyment and pleasure.
★ While you wait Service by Professional Computer Engineers.
★ 3 Months written guarantee on all repairs.
★ International repair company.
★ All computers sent by mail order turned around in 24 hrs.
★ Most Spectrums repaired within 45 minutes.
★ All Micros insured for return journey.
★ Open 7 days a week.
★ School repairs undertaken-discounts available.
★ Free software with each Spectrum repaired worth £5.95.
★ Over 8 years experience working with computers.
ONLY GENUINE SINCLAIR PARTS USED
TRADE EQUIRIES MOST WELCOME
ACCESS WELCOMED
VIDEOVAULT INTERNATIONAL LTD (Dept PCW) THE LOGICAL CHOICE
VideoVault
FREE GAME WORTH £5.95 WITH EACH SPECTRUM REPAIR
Tel (04574) 66555/67761
140 High St West, Glossop, Derbyshire, England

GAMES SOFTWARE

SPECTRUM 48K

AN ADVENTURE WITH A DIFFERENCE!

'MASTERCLASS'

NO FANTASY
NO RANDOM ELEMENTS
STRICTLY LOGICAL AND ROOTED IN REALITY

Please send [illegible] P.O. for £4.95 to

TRINITY SOFTWARE

[illegible] BIRMINGHAM [illegible]

SAVE £££'s ON SOFTWARE 25% off all latest games and utilities. Spectrum, Commodore, BBC and Amstrad. Please send S.A.E. for details to Newyear Ltd, 73 Priory Crescent, London SE19 3ED

SPECIAL OFFER FOR ATARI [illegible] OWNERS

Hire first 2 games FREE from our extensive range of software. Latest releases! Apply now! Also Atari hardware & modems for sale at discount prices.
For further details send SAE to
CHARNWOOD GAMES, 30A WARWICK AVENUE, QUORN, LOUGHBOROUGH, LEICS.
TEL. 0509 412604

48K SPECTRUM 3 utility programs. Decimal into hexidecimal loader/Hex loader [illegible] Cheques/PO to S. Peters [illegible] software, c/o 44 Burford Road [illegible] 1WP 0LS

HINTS, POKES, MAPS, COMPETITIONS! AMSTRAD/BBC, COMMODORE, SPECTRUM

[illegible]

PEOPLE'S SOFTWARE 10 Lawrence Road, London SE25 5AA. Spackages for BBC micro with disc £5 each: wordprocessor, database, spreadsheet. Before ordering send S.A.E. for details.

CLAIRE'S COMPUTERS

Top Software at Lowest prices for Commodore 64 and Spectrum

Top twenty [illegible] plus more FREE [illegible] over £10
Send SAE for latest [illegible]

Claire's Computers, 10 Treganoon Road, Mount Ambrose, Redruth, Cornwall TR16 1DZ

EDUCATIONAL SOFTWARE

COMMODORE 64 EDUCATION SOFTWARE

[illegible]

SCIENCE

Boyles Law [illegible]

ENGLISH

Word Hunt [illegible] Spelling

also

GEOGRAPHY HISTORY MATHS

Send for free details/catalogue

TO DATA QUEST (IRL) LTD
92 BISHOPSWATER
WEXFORD IRELAND

ACCESSORIES

5¼" FLOPPY DISCS

Single Sided/80 track suitable
ALL MANUFACTURED IN EEC

Autumn offer to clear out Summer Stock Build Up
Prices each excl. of VAT

[illegible]

BOLTON WELLS LTD
1st Floor, Pearl House,
746 Finchley Road, LONDON NW11 7TH
Phone: 01-209 1521

COMPUTER CLEANERS

*******STOPS LOCK UP*******

[illegible]

Tony Fireham Services
45 Bird Street, London [illegible]

EPSON DX100 daisywheel printer plus extra printwheel and ribbons for £300 ono. Must sell, upgrading. Phone 0536 711080 anytime.

Self Adhesive Cassette & Disk Labels

[illegible]

YOUR COMPUTER can earn you pounds and pounds by using it to perform a simple service. Free details S.A.E. D Harrison, 5 Dovecote Road, Forest Hall, Newcastle NE12 9LL

CASSETTE LABELS PRINTED High quality letterpress, low cost, small orders welcome, self adhesive or plain, samples and price list – 0326 313605

!!! DISC BONANZA !!!

5.25" SSDD £8 for 10!
£37 for 50!!
3.5" SSDD £8.75 for 5!
£40 for 25!!

Why pay more?? These are quality, guaranteed discs and prices are fully inclusive. Order now from

SOFTWARE CLASSICS,
2 Cennic St, Manchester M11 2JT (Tel 061 223 3669)

SAVE UP TO 35%

[illegible] computer
[illegible]
FUEL BOSS on
[illegible]

BLANK CASSETTES

WITH LIBRARY CASES

	C10	C15	C20	C30
10	3.80	4.00	4.10	4.15
20	7.00	7.20	7.35	7.20
50	15.00	15.20	15.35	15.35
100	27.00	28.00	28.00	28.00

Fully inclusive [illegible]

5¼" DS/DD DISKS

10 for £14.00 inc plastic case

[illegible]
UK HOME COMPUTERS, [illegible] CHURCHWARD AVE, SWINDON, WILTS [illegible]

AMSTRAD

IDLE MEDDLER FOR AMSTRADS

[illegible]

AMSTRAD BOREDOM?

[illegible]

NEMESIS
10 CARLOW RD, RINGSTEAD, NORTHANTS
NN14 4DS

DUPLICATION

M. G. COPIES

Whatever your order size we offer the same quality and service for

DATA DUPLICATION

Telephone 0543 480857

for our competitive price list or write to

24 Birmingham Road, Shenstone Staffs

FAST [illegible] of DATA-DUPLICATION [illegible]

SIMON STABLE PROMOTIONS
CASSETTE DUPLICATION

[illegible]

Jbs records
COMPUTER PROGRAMS

REAL TIME [illegible] professional Cassette Duplication and Blanks 1 to 1000+. Computer printed cassette labels. BBC disk copying 1 to 500. Fast Security Delivery Service.

Jbs records—a division of FILTERBOND LTD. 19 Sadlers Way, Hertford SG14 2DZ. 0992 551188

HARDWARE

National Computer Discount

This Weeks Special

! B A R G A I N S !

EPSON LX 86 NLQ
*** ONLY £259 (inc VAT) ***

also

1 Only Ex-Demo
MACKINTOSH + MOUSE
+ IMAGE WRITER
*** ONLY £1399 (+ VAT)**

MAIL ORDER HOTLINE

0702 337161

Cheques to Clarke Crystan Computers, 332 London Rd, Southend, Essex.
Phone now for Lowest Prices on all Computers & [illegible]
Please add £4 p&p – [illegible]

MAGAZINES

commodore HORIZONS

COMMODORE HORIZONS

Special offer! For a limited period only!

[illegible]

Commodore Horizons, Special Build Offer

[illegible]

Machine code graphics & sound on C64
Artificial intelligence on C64
Building with Logo on C64

FOR SALE

QL SOFTWARE metacomco BCPL £35, com-one Pascal £15, Com-one monitor £10. All original software. Tel 01-845 8419 after 6.30pm

BACK LIST books for Oric, Dragon, Vic20, T99. S.A.E. to Backlist computer bookshop, 30 Lincoln Road, Birmingham B27 6PA stating machine.

FULLY PROTECT your Spectrum programs with turbo-loaders and merge stupid code etc. Keep the pirates away. Send program + £10 or S.A.E. for details: Sigmasoft, 9 Pine Dale, Rainford, Merseyside WA11 8DP

THIS SPACE FOR SALE

£28 (Inc. VAT)

TELEPHONE
PCW CLASSIFIED
01-437 4343 Ext 208

There's a Dealer near you . . .

YORKSHIRE

THE COMPUTER STORE
18 CLEVELAND STREET
DONCASTER
Tel (0302) 25260

THE COMPUTER STORE
25 TEALL STREET
WAKEFIELD
Tel (0924) 384983

THE COMPUTER STORE
8 BRIDGE STREET
YORK
Tel (0904) 646934

THE COMPUTER STORE
40 TRINITY STREET ARCADE
LEEDS
Tel. (0532) 429284
(open now)

YORK COMPUTER CENTRE
7 STONEGATE ARCADE
YORK
Tel (0904) 641862

LEICESTERSHIRE

DIMENSION COMPUTERS LTD
27-29 HIGH STREET
LEICESTER
Tel (0533) 57479

WARWICKSHIRE

FAST FORWARD COMPUTER STORE
29 SMITH STREET
WARWICK
Tel: (0926) 492004

LONDON

SILICA SHOP
1-4 THE MEWS
HATHERLEY ROAD
SIDCUP, KENT
Tel: 01-309 1111

VIC ODDENS
6 LONDON BRIDGE WALK
LONDON SE1
Tel: 01-403 1988

GAMES WORLD
129 KING STREET
HAMMERSMITH
LONDON W6
Tel: 01-741 4467

SOFTWARE STORE LTD
35 LONDON ROAD
LONDON SW17
Tel: 01-685 1470

AVON

SOFTWARE PLUS COMPUTERS
12 YORK STREET
BATH
Tel: (0225) 61676

NOTTINGHAM

MPC SOFTWARE
72 JULIAN ROAD
WEST BRIDGFORD
NOTTINGHAM NG2 5AN
Tel: (0602) 820106

LEEDS

MICROPOWER
NORTHWOOD HOUSE
NORTH STREET
LEEDS LS7 2AM
Tel: (0532) 458800

KENT

AMIROS COMPUTERS
29 West Hill
Dartford
Kent
Tel: (0322) 91649

dgh software centre
10 NORTH STREET,
ASHFORD, KENT
Tel: (0233) 32597

MICROWAY COMPUTERS
39 HIGH STREET
RAINHAM KENT
Tel. (0634) 376702

HEREFORDSHIRE

HONEYSEET COMPUTERS
17 UNION STREET
HEREFORD HR1 2BT
Tel. (0432) 279404

LIVERPOOL

BLUE CHIP
77 ALLERTON ROAD
LIVERPOOL L18 2DA
Tel (051) 722 3037

BIRMINGHAM

D G MICROTEK ELECTRONICS
190B DUDLEY ROAD
WINSON GREEN
BIRMINGHAM
Tel: (021) 454 4587

HERTFORDSHIRE

BROADWAY COMPUTER CENTRE
75 QUEENS ROAD
WATFORD, HERTS
Tel: (0923) 43301

ESSEX

MINNIE MICRO COMPUTER STORE
12 EASTERN ESPLANADE
SOUTHEND, ESSEX
Tel. (0702) 615809

ESTUARY PERSONAL COMPUTERS
318 CHARTWELL NORTH
VICTORIA CIRCUS SHOPPING CENTRE
SOUTHEND ON SEA
Tel: (0702) 614131

HUMBERSIDE

THE COMPUTER CENTRE
26 ANLABY ROAD
HULL
NORTH HUMBERSIDE
0482 26297

LANCASHIRE

SOUND AND VISION
11 SILK STREET
LEIGH LANCS WN7 1AW
Tel: (0942) 673699

S. WALES

MAPPLE MICRO ASSOCIATES
FREEPOST
PO BOX 17
CWMBRAN
GWENT NP44 3YT

DEALERS!!!
Let them know
you're out there.
Call David Osen
on 01-437 4343

TELEX YOUR CLASSIFIED COPY TO:
29627S
SUNRGY



DIARY

Event	Dates	Venue	Admission	Organisers
Commodore Horizons Show	October 26-27 10.00am-6.00pm	Tech West Centre Warple Way London W13	£2.00 adults £1.00 children (in advance)	Editionscheme 01 346 0580
Computer Fair	November 10 2.00pm-7.00pm	Duncan Bowen Youth Wing Kingsnorth Rd Ashford Kent	60p adults 30p children	J Fenning 0233 26694
East of England Computer Fair	November 11	The Cresset Centre Peterborough		East of England Enterprises 0733 234040
Electron and BBC Micro User Show	November 14-16 10.00am-6.00pm November 17 10.00am-4.00pm	New Horticultural Hall London SW1	£3.00 adults £2.00 children	Database 061-456 8383
Acorn User Christmas Show	November 22-23 10.00am-6.00pm	Central Hall London SW1	£2.00 adults £1.00 children	Editionscheme 01-346 0566

Computer Swap 01-437 4343

Acorns for Sale

ACORN ELECTRON + [illegible] brand new in box, unwanted present. Cost £220 first £150. Sutton Coldfield W Midlands Tel 021 308 1607 evenings

BBC MODEL B New unused unwanted prize [illegible] with [illegible] microtext programming system worth £50 £250 Tel 01-446 3131

Amstrad for Sale

AMSTRAD 464 green monitor 4 months old all manuals etc. Genuine reason for sale. Only £180 ono Tel 01 504 9334 (East London)

AMSTRAD 464 with green monitor and games software. All boxed only £160 Tel 01-858 0763

AMSTRAD CPC 464 colour perfect condition still under guarantee books joystick and software £225 Tel 021 445 4501 evenings

AMSTRAD 464 software mags books modulator + colour monitor sell for £290 ono. Also 1541 disk drive + software (for C64) books mags sell for £158 ono Andy (061) 430 7808 buyer collects

FOR SALE Amstrad CPC464 with colour monitor including Hisoft Assembler and Firmware manual + Tasword 464 and four other games also CEAF screen editor all for £220 01 286 [illegible]220 (Maida Vale Near Paddington London)

AMSTRAD CPC 464 colour monitor TV modulator with original packing and manuals all vgc — software £185 ono Call Andy 01-894 0671 after 6pm

AMSTRAD 464 colour perfect condition some software only £220 Call 286 8749 6-8pm

AMSTRAD CPC464 with colour monitor (plus 1 cassette) joystick manual some software. Excellent condition only ten months old — owner upgrading £215 ono Tel [illegible] 850017 evenings

AMSTRAD 464 green screen MPI colour TV modulator 7 games all in good condition and boxed. Little use £150 (Herts [illegible] 76388)

Ataris for Sale

Atari 130XE 1010 [illegible] joystick all leads Atari User Value £260 sell for £145 ono Tel Luton 0582 464546 daytime 607198 evenings weekends ask for Tony

BBC for Sale

BBC B + 0 BC [illegible] 100 [illegible] disc drive [illegible] 500 modem 2K [illegible] lots of Roms AMX mouse joysticks printer £1000 worth sware free acorn album with extras except cover wireless sware £1100 only Absolutely no less!! Tel 906 4682 6pm-10pm

BBC B + DFS 100K disc drive graphic printer 32K sideways ram tons of software loads of Roms discs joysticks books disc box magazines Sell everything for £800 ono Phone Andrew 01 664 3672

FOR SALE BBC B with monitor graphics Rom recorder software books and mags £280 Wanted QL latest version with Quills and working microdrives May buy languages or assembler Tel (0623) 732318

BBC B OS1.2 little used £240 Tel 01 590 1215 (I lord) evenings please

COMMODORE for Sale

C64 1541 OTEC HRSC [illegible] Simons Basic joystick £300 worth of software £100 worth of books all in good order £480 ono Tel Bolton 0204 62355

CBM 64 cassette recorder £100 games software including Beachhead and Soccer cartridges only £150 also supersoft assembler cartridge advanced user guide and m/c book £40 Phone 01 805 3527

CBM64 software Fahrenheit 451 £12, Adventure Quest £5 [illegible] Max disc £8 Bounty Bob Encounter Zaxxon Psychedelia £6 each No swaps or offers Doncaster (0302) [illegible] after 6pm

SELL OR SWAP CBM64 originals. Include Summer Games II Karateka Hypersports Wizardry Dropzone Pitstop II Exploding Fist Shadowfire etc Especially wanted Paradroid Mercenary Terrormolinos Ring (0268) 77641 ask for Rob

COMMODORE 64 C2N tape deck competition pro- joystick + 300+ games including Ballblazer and other latest releases Bargain at £200 ono Tel 0202 482196 after 8pm and ask about computer for sale

CBM64 — joystick + light pen + s/w + recorder £150 ono Tel Leics (0533) 863434 extn 3615, 9-5 weekdays ask for Phil

Own Business

LUCRATIVE P/t occupation business run from home. No specialist knowledge or outlay needed. For details write [illegible] Mattams 3 Park Crescent, Bradford 3 Yorkshire

MAKE money from your micro! No skills needed. For details on this exciting handbook send 17p stamp today to [illegible] Publications 30 Rickwood Horley Surrey RH6 9DF

ADVENTURE HELPLINE

Heroes of Carn on Spectrum. How to kill Giant Bat? Play music to X Spider? Kill pirate? S Wilbarns 57a Queens Ave London N10

Valkyrie 17 on Spectrum. How do you get the diamond in the Schloss Drakenfeld Hotel? Richard Webber 20 Barry Close Chadwell-St Mary Nr Grays Essex RM16 4SU

The Hobbit on Spectrum. Killed the Dragon got the treasure how do you get back? When in Goblin dungeon cannot get out. Les House, 16 Hanham Rd Corfe Mullen Wimbourne Dorset BH21 3PZ

Fourth Protocol on Spectrum. What are the answers to Plumbs questions? R Taverl 38 Longbeck Ave Mapperley Nottingham

Lord of the Rings on Spectrum. How do I get past the Willow tree that squeezes me to death Philip L 88 Hermitage Lane Mansfield Notts NG18 5HA

Zkul on QL. How do you move the rock fall and how do you speak to the dwarfs? R N Jenner 32 Kestrel Close Thornbury Avon.

Castle or Riddles on BBC B. How to get through the Black Maze? Chris Hill, 180 Reevy Road, Bradford, West Yorkshire

Dun Darach on Spectrum. How do you make a lot of money? How do you get the Pearl and the three castle keys? Peter Martin 16 Mich Karaolis St, Strovolos Nicosia Cyprus

COMPUTER SWAP

Computer Swap [illegible] limited to [illegible] words. All entries cost £1.50 and can be accepted by telephone if a Visa/Access number is given. Please enclose a cheque or postal order or give Access or Barclaycard No in the box provided. Only text appearing in the grid will be printed. Send the form to Computer Swap *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP.

PLEASE NOTE All software offered through computer swap must be in original condition and for private sale only. No advertisements for lists of software will be accepted.

[illegible] cannot be swapped.

Warning: It is illegal to advertise pirated software.

COMPUTER SWAP

Please write your copy in capital letters on the lines below

Name

Address

Telephone

Please charge my Visa/Access card no

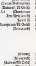
Charts



Amstrad

1	(1)	Way of the Exploding Fist	(Melbourne House)	£8.95
2	(3)	Frank Bruno's Boxing	(Elite)	£8.95
3	(1)	Finders Keepers	(Mastertronic)	£1.99
4	(–)	Grand Prix 3D	(Amsoft)	£9.95
5	(8)	Nonterraqueous	(Mastertronic)	£1.99
6	(2)	Chiller	(Mastertronic)	£1.99
7	(10)	Starion	(Melbourne House)	£8.95
8	(–)	Air Wolf	(Elite)	£8.95
9	(–)	Highway Encounter	(Vortex)	£9.95
10	(–)	Cyrus 2 Chess	(Amsoft)	£9.95





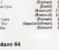
Atari

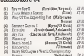
1	(1)	Rescue On Fractalus	(Lucas/Activision)	£9.95
2	(–)	Up & Down	(Sega/US Gold)	£9.95
3	(8)	Chop Suey	(English Software)	£9.95
4	(–)	Hacker	(Activision)	£9.99
5	(–)	Ball Blazer	(Lucas/Activision)	£9.95
6	(2)	Blue Max 2001	(Datasoft/US Gold)	£9.95
7	(4)	Pinball Construction Set	(Electronic Arts/Ariolasoft)	£9.95
8	(8)	Emerald Isle	(Level 9)	£9.95
9	(–)	Mig Alley Ace	(Microprose/US Gold)	£9.95
10	(5)	Seven Cities of Gold	(Ariolasoft)	£9.95



BBC

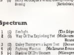
1	(1)	Match Day	(Ocean)	£9.95
2	(8)	Bored Of The Rings	(Silversoft)	£6.95
3	(2)	Beach-head	(Access/US Gold)	£9.95
4	(8)	Alien 8	(Ultimate)	£9.95
5	(3)	Combat Lynx	(Durell)	£8.95
6	(9)	Revs	(Acornsoft)	£14.95
7	(7)	Elite	(Acornsoft)	£12.95
8	(10)	Knight Lore	(Ultimate)	£9.95
9	(–)	Death Star	(Superior Software)	£9.95
10	(–)	Atic Atac	(Ultimate)	£8.95





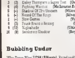
Commodore 64

1	(1)	Spy vs Spy II	(First Star/Beyond)	£8.95
2	(2)	Frank Bruno's Boxing	(Elite)	£7.95
3	(3)	Way Of The Exploding Fist	(Melbourne House)	£9.95
4	(4)	Summer Games II	(Epyx/US Gold)	£9.95
5	(9)	Karateka	(Broderbund/Ariolasoft)	£9.95
6	(6)	Sky Fox	(Electronic Arts/Ariolasoft)	£9.95
7	(8)	Wizardry	(The Edge)	£9.95
8	(7)	Beach-head II	(Access/US Gold)	£9.95
9	(–)	Blackwyche	(Ultimate)	£9.95
10	(5)	Barry McGuigan's World Championship Boxing	(Activision)	£9.95



Spectrum

1	(1)	Fairlight	(The Edge)	£9.95
2	(3)	Way Of The Exploding Fist	(Melbourne House)	£9.95
3	(2)	Daley Thompson's Super Test	(Ocean)	£9.95
4	(4)	Fighting Warrior	(Melbourne House)	£8.95
5	(–)	Shadow Of The Unicorn	(Mikrogen)	£14.95
6	(–)	Bored Of The Rings	(Silversoft)	£9.95
7	(–)	Now Games	(Virgin)	£8.95
8	(7)	Frank Bruno's Boxing	(Elite)	£6.95
9	(10)	Nightshade	(Ultimate)	£9.95
10	(8)	Sorderon's Shadow	(Beyond)	£9.95



Bubbling Under

Who Dares Wins II/C64 (Alligata), Paradroid/C64 (Hewson Consultants); William Wobbler/C64 (Wizard Development), Squirm/Spectrum (Mastertronic), Critical Mass/Spectrum (Durell), Rats/Spectrum/C64 (Hodder & Stoughton), Rupert And The Toymakers Party/C64 (Quicksilva), Grand Prix 3D/Amstrad (Amsoft) Excalibur/Spectrum (Mastertronic), MacAdam Bumper/Amstrad (PSS)
All figures compiled by Gallup/Leisurescope

Top Twenty

1	(1)	Way of the Exploding Fist *(Spectrum/C64/Amstrad)*	Melbourne House
2	(2)	Frank Bruno's Boxing *(Spectrum/C64/Amstrad)*	Elite
3	(3)	Fairlight *(Spectrum)*	The Edge
4	(4)	Daley Thompson's Supertest *(Spectrum)*	Ocean
5	(7)	Now Games *(Spectrum/C64)*	Virgin
6	(5)	Fighting Warrior *(Spectrum)*	Melbourne House
7	(8)	Spy vs Spy II *(C64)*	Beyond
8	(–)	Terrormolinos *(Spectrum/C64/BBC)*	Melbourne House
9	(–)	Shadow of the Unicorn *(Spectrum)*	Mikro-Gen
10	(6)	Hacker *(Spectrum/C64/Atari)*	Activision
11	(–)	Bored of the Rings *(Spectrum/BBC)*	Silversoft
12	(10)	Finders Keepers *(Spectrum/C64/Amstrad/MSX)*	Mastertronic
13	(14)	Summer Games II *(C64)*	Epyx/US Gold
14	(9)	Graham Gooch's Test Cricket *(Spectrum/C64)*	Audiogenic
15	(11)	Action Biker *(Spectrum/C64)*	Mastertronic
16	(17)	Hypersports *(Spectrum/C64/Amstrad)*	Imagine
17	(–)	BMX Racers *(Spectrum/C64/C16)*	Mastertronic
18	(–)	Karateka *(C64)*	Broderbund/Ariolasoft
19	(–)	Formula 1 Simulator *(Spectrum/C64/C16)*	Mastertronic
20	(20)	Sky Fox *(C64)*	Electronic Arts/Ariolasoft

Figures compiled by Gallup/Leisurescope

Readers' Chart No 47

1	(1)	Way of the Exploding Fist (Spectrum/C64/Amstrad)	Melbourne House
2	(3)	Daley Thompson's Supertest (Spectrum)	Ocean
3	(8)	Hypersports (Spectrum/C64)	Imagine
4	(–)	Now Games (Spectrum/C64)	Virgin
5	(2)	Fairlight (Spectrum)	The Edge
6	(5)	Summer Games II (C64)	Epyx/US Gold
7	(4)	Frank Bruno's Boxing (Spectrum/C64/Amstrad)	Elite
8	(–)	Soft Aid (Spectrum/C64)	Various Artists
8	(5)	Spy vs Spy (Spectrum/C64)	Beyond
10	(7)	Barry McGuigan's World Championship Boxing (C64)	Activision
=	(–)	Bored of the Rings (Spectrum/BBC)	Silversoft

Winning phrase No 47 "Wogan goes AWOL, riots reported" from Darren Gregory of Blackpool, who receives £25 Runners up 'The Iron Lady spoke of lower taxes – flying pigs spotted' from Ian Rockett of Leeds and 'Daley has worn the keys down to the floor" from Philip Bastable of Sevenoaks

Now voting on week 49 – £25 to win

Each week *Popular* is computing its own special software top ten chart – compiled by YOU

And each week we will send £25 to the person who sends in, with their chart votes the most original (witty, neat or clever – but never rude) phrase or sentence made up from the letters (you don't have to use them all) in the titles of the top three programs in this week's Readers' Chart, published above

You can still vote in the chart without making up a slogan – but you won't be in with a chance of winning the prize

All you have to do is fill in the form below (or copy it out if you don't want to damage your magazine) and send it off to Top 10, *Popular Computing Weekly*, 12-13 Little Newport Street, London WC2H 7PP

Voting for Week 49 closes at 2pm on Wednesday October 30 1985 Entries received after that time will not be eligible for inclusion in that week's voting The judges decision is final Only one entry per individual per week will be allowed.

Name ....

Address ....

....

....

My top 3: Voting Week 49

1. ....
2. ....
3. ....

My phrase is: ....

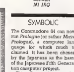
New Releases

CURIOUS

The Secret Diary of Adrian Mole is a curious affair. The book/radio program/television program featured gentle, reflective humour and accurate observation of the quirks of parents and children. Not the sort of stuff you expect to see translated into a computer program.

Hard to describe exactly what this program is, for an adventure game it lacks complex puzzles and text input, for the sake of simplicity the vague term interactive fiction will have to do.

The screen looks like an graphics adventure – a series of simple graphics at the top of the screen illustrate the current situation, eg, when Adrian is wondering about paint you get a paint pot at the top of the screen. However, whilst a great wadge of text scrolls past in the bottom two thirds of the screen, your interaction is limited to choosing between three options. Options are selected simply by pressing a number key.



And so it goes really, lots of moderately wacky text based around the books which occasionally stops to ask you between three options for what happens next, the end objective being to become a model schoolboy liked by everyone.

I must admit I found the whole thing rather pointless. Restricting course of action so much may mean more room for text but it greatly reduces any real sense of involvement or challenge. Perhaps this is the view of someone expecting an adventure, but I find it hard to imagine that anyone could find the program involving. Perhaps the format would make it suitable for very young children but then I'm not sure they would appreciate the subtleties of the text. A curious release.

Program *Secret Diary of Adrian Mole*
Price *£9.95*
Micro *Various*
Supplier *Mosaic Publishing, 187 Upper Street, Islington, London N1 1RQ*

SYMBOLIC

The Commodore 64 can now run *Prologue* (or rather *Micro Prologue*), a computer language which much is claimed. It has been chosen by the Japanese as the basis of the Japanese Fifth Generation computer project.

This Commodore implementation of *Micro Prologue* comes on disc with a spiral bound manual which concerns itself with the basic commands available to Prologue and their use in simple

Pick of the week

MERGED PICTURES



Incentive Software will shortly release a complete graphic adventure authoring system for the Amstrad. With the *Quill* rock-like in its pre-eminent position it's a brave step to make.

The *Graphic Adventure Creator* costs £22.95 – not cheap but if you compare that to *Quill* plus *Illustrator* it is actually less. But are the two systems comparable?

In the end I think the *Graphic Adventure Creator* is the better program. It combines greater power with much greater ease of use. Both graphics designer and text organiser are in memory at the same time and the logic is much easier to master.

The text element works in a similar way to *Quill*. Rooms are numbered, described, exits arranged and have pictures assigned to them. Similarly objects are numbered and placed. Synonyms are catered for merely by assigning them all with the same number, eg, Take, Get, Grasp and Hold could all be numbered five and any one would be equally acceptable to the computer.

The computer can be made to understand multi-statement instructions divided by commas, dots, and or anything you wish and because the words are held in full you are not restricted at all – even words like River and Rivet with the same four letters will be distinguished.

The graphics element is similarly easy to use. You get the usual cursor which may be moved in large or small steps. In-built facilities include squares, rectangles and arcs, all of which work on a rubber banding basis and so are easily varied in size.

Colours may be mixed together and used to fill any enclosed shape, etc etc. You may also merge one picture with another and then subtly alter it.

It's a beautifully designed package and does take the *Quill* a good few stages on; if you have an Amstrad you're lucky – force someone to buy it for you for Christmas.

Program *The Graphic Adventure Creator*
Price *£22.95*
Micro *Amstrad*
Supplier *Incentive Software, 54 London Street, Reading RG1 4SQ*

This Week

Program	Type	Micro	Price	Supplier
Dynamite Dan	Arc	Amstrad	£8.95	Mirrorsoft
Soul of a Robot	Arc	Amstrad	£1.95	Mastertronic
Hercule	Ed	Amstrad	£8.95	Kuma
Satellite Warrior	S	Amstrad	£8.95	Amsoft
Spitfire 80	S	Amstrad	£9.95	Mirrorsoft
Graphic Adv Creator	Ut	Amstrad	£22.95	Incentive
Small Traders Pack	Ut	Amstrad (disc)	£22.95	S D Micro-Systems
Dynamite Dan	Arc	Amstrad	£8.95	Mirrorsoft
Meddler	Arc	Atari	£8.95	English Software
Lucifer s Realm	Adv	Atari (disc)	£14.95	All American Adventures
K-Seka Assembler	Ut	Atari 520ST	£49.95	Kuma
Arcdes Hall of Fame	Arc	Commodore 64	£9.95	US Gold
Codename Mat II	Arc	Commodore 64	£8.95	Domark
Crazy Comets	Arc	Commodore 64	£7.95	Martech
Dynamite Dan	Arc	Commodore 64	£8.95	Mirrorsoft
Harvey Smith Showjumping	Arc	Commodore 64	£7.95	Software Projects
Journey	Arc	Commodore 64	£7.95	CRL
Who Dares Wins II	Arc	Commodore 64	£7.95	Alligata
Winnie the Pooh	Ed	Commodore 64	£9.95	US Gold
Electrosound 64	Ut	Commodore 64	£14.95	Orpheus
Soft Screen	Ut	Commodore 64	£10.95	Dynamic Software
Hit and Miss	S	Commodore Plus 4	£7.99	Venturegale
Hit and Miss	S	Commodore 16	£7.99	Venturegale
Lucifer s Realm	Adv	Commodore 64	£14.95	All American Adventures
Harvey Smiths Showjumping	Arc	MSX	£7.95	Software Projects
QL Super Arcadia	Arc	QL	£16.95	Digital Precision
Super Backgammon	S	QL	£15.95	Digital Precision
Super Astrologer	Ut	QL	£24.95	Digital Precision
Super Monitor/Diss	Ut	QL	£24.95	Digital Precision

programs You are also supplied with a book, *Start Problem Solving with Prologue*, which shows in greater detail how flexible the language can be

What Prologue reminds me of, more than anything else, is symbolic logic Symbolic logic is the formal way of expressing all those mad sentences like all fish swim, Socrates can swim (and do so many other things) therefore Socrates is a fish

Micro Prologue is a computer language that similarly allows you to express things about the world in a series of statements linked by If then If then not, type structures This implementation of the language is impressive and even at a massive £79 93 for the package is of great interest to those interested in programming and the business of making computer thought processes more like human ones

Program *Micro Prologue*
Price *£79·93*
Micro *Commodore 64*
Supplier *Logic Programming Associates The Royal Victoria Patriotic Building Trinity Road London SW18 3SX*

SERIOUS USE

Intersheet forms part of a suite of programs for the BBC planned by Computer Concepts over the next few months All are serious business utilities which link together sharing and freely transferring data

Intersheet is a spreadsheet of Rom and on paper at least it beats rivals like *View sheet* and *Ultra Calc 2* hands down. The biggest single advantage is that you get 8400 bytes free for data storage, it also costs £56 35, which makes it a few quid cheaper as well.

The packaging and presentation is excellent – a concise manual, a *Wordstar* style reference card of commands, a short booklet explaining the point and use of spreadsheets and a card to lay over the top of your computer indicating function key use Oh, and a couple of leaflets on fitting the Rom into your BBC

It looks very good indeed but I won't pretend to give it the intensive review it deserves here With compatible graph drawing program *Inter Chart* (£36 80) already available and the promise of a database and 80 column word processor next year, it looks like a very useful package

Program *Intersheet*
Price *£56 36*
Micro *BBC*
Supplier *Computer Concepts Gaddesdan Place Hemel Hempstead Herts HP2 5EX*

ADVANTAGES

Head Alignment programs have been coming thick and fast recently too many to review really

Robcom get a mention here, though, because it has produced a single tape which will work on almost any micro (except, it seems, the Commodore 64)

Actually it isn't a program at all, you don't actually need your computer to hand The Robcom tape has been designed to simply produce a pitch that varies according to the tape alignment – the higher the better

The package includes alignment tape head cleaner and small screwdriver and has two main virtues over the other packages intended to do the same job First it's cheap, £4 95, and secondly if you have more than one computer you don't need to use two separate packages Very useful

Program *Head Alignment Kit*
Price *£4 95*
Micro *various*
Supplier *Robcom 36 Market Place Falloden Way London NW11 6JP*

BIZARRE IDEAS

With a name like *Grumpy Gumphrey Supersleuth* it doesn't take much to realise that Gremlin Graphics' latest game is not exactly po-faced and doom-laden.

Actually it reminds me, more than anything else, of the Wally games from Mikro-Gen, which is not to say it doesn't have many positive features of its own In fact it's very inventive

The idea is that you are a store detective mole and over the course of your day in the store a number of different tasks must be accomplished

These range from taking Sir his tea to shooting a team of ducks that have invaded the ground floor – this, when you come to think of it is fairly bizarre

To kill the ducks you need the gun which is in the manager's office but whenever you enter it he kicks you out Each task therefore consists of a number of sub-objectives

Graphically it has exactly the same strengths and failings as the Wally games – nice big colourful graphics, slightly ropey animation and a complete disregard to attribute problems (in practice they didn't bother me all that much, however)

It is a very ingenious game indeed, and the humour comes easily from the genuine lunacy of some of the ideas rather than a heavy handed self-conscious attempt to be wacky

The cry of "Hey man, ducks on the shop ground floor" which opens the game, ought to become a cult catchphrase soon

Program *Grumpy Gumphrey Supersleuth*
Price *£7 95*
Micro *Spectrum*
Supplier *Gremlin Graphics Alpha House 10 Carver Street Sheffield* S Yorks *S1 4FS*

This Week

Super Sprite Gen	Ut	QL	£24 95	Digital Precision
Supercharge	Ut	QL	£59 95	Digital Precision
Superforth	Ut	QL	£29 95	Digital Precision
One Man and his Droid	Arc	Spectrum	£1 99	Mastertronic
World Series Basketball	Arc	Spectrum	£7 95	Imagine
Spitfire 40	S	Spectrum	£8 95	Mirrorsoft
Halley's Comet	Ut	Spectrum	£6 95	Eclipse
Sound Boost	Ut	Spectrum	£9.95	Saga Systems
Personal Bank Account	Ut	TI 99/4A	£3.99	A & J8

Key: Ad – adventure; Arc – arcade; S – strategy simulation; Ut – Utility; Ed – education

A & J8 52 Marshfield Way Fairfield Park Bath BA1 6HQ **All American Adventures** Unit 10 The Parkway Ind Est, Heneage Street, Birmingham B7 4LY 021 359 3020 **Alligata** 1 Orange Street Sheffield S1 4DW 0742 755796 **Amsoft,** Brentwood House 169 Kings Road Brentwood Essex 0277 230222. **CRL,** CRL House 8 Kings Yard Carpenter's Road London E15 2HD 01 533 2918 **Digital Precision** 91 Mirror Rd Higham Hill London E17 5RY 01 572 5493 **Domark** 204 Worple Road London SW20 8PN 01 947 5624 **Dynamic Software** 32 Ludford Park Ballinteer Dublin 16 Ireland **Eclipse** 78 Ardrossan Gardens Worcester Park Surrey KT4 7AX 01 330 3116 **English Software,** 1 North Parade Parsonage Gardens Manchester M60 1BX 061 835 1358 **Imagine,** Imagine Software, 6 Central Street, Manchester M2 5NS **Incentive** 54 London Street, Reading RG1 4SQ 0734 591678 **Kuma** Kuma Computers 12 Horseshoe Park Pangbourne RG8 7JW 07357 4335 **Martech,** Martech House Bay Terrace Pevensey Bay East Sussex BN24 6EE 0323 768456 **Mastertronic,** Park Lorne 111 Park Road London NW8 7JL 01 402 3316 **Mirrorsoft,** Mirror Group Holborn Circus London EC1P 1DQ 01 353 0246 **Orpheus** The Smithy Unit 1 Church Farm Hatley St George Nr Sandy Berks **S D Micro-Systems** PO Box 24 Hitchin Herts SG4 0AE **Saga Systems,** 2 Eve Road Woking Surrey GU21 4JT 04862 22977 **Software Projects** Bearbrand Complex Allerton Road Woolton Liverpool L25 7SF 051 428 9393 **US Gold** Unit 10 The Parkway Ind Centre Heneage Street Birmingham B7 4LY 021 359 3020 **Ventureogle Ltd,** 17 Harold Road Leeds LS6 1PR 0532 568252.



Standard bearers

There is an old joke that the Isle of Man government has decided to change over to driving on the right hand side of the road. This brings them into line with the majority of EEC members The government researched the Swedish change-over from left- to right-hand drive which happened on the stroke of midnight This they feel was too much of a shock to the system So they decided to change over gradually, starting with bicycles and cars and swapping the lorries and buses over later

The tale demonstrates quite vividly the importance of standards

Standards are no less important in the microcomputer industry than in any other. It is just that their importance is often underestimated and misunderstood.

The Apple II was designed in 1977, yet is still one of the world's best selling computer It was the first true personal computers and thus became a standard. As such it attracted vast numbers of software packages covering a diversity of applications The people needing these applications are therefore locked into Apple II hardware

The IBM PC was the first business computer acceptable to the business community, if for all the wrong reasons As such it also became a standard.

The Sinclair Spectrum was the first full specification home computer Full specification means colour, sound, ample memory and decent Basic Home computer means affordable within the average credit card limit. The Spectrum became a standard, there is more software for it than any other home computer and the standard will go on for ever

Apple, uniquely has two standards In addition to the Apple II it has the Macintosh, the world's first user-friendly personal computer It is a testament to the sheer intellect of Steve Jobs that Apple have achieved this amazing double

These are the established standards. Yet some standards are still waiting to be established The two most obvious being the lap-held and the second generation (as a mass consumer durable) home computer. Lap-helds are waiting for technology in displays and magnetic media. It is just that no-one yet has put all the bits together at the right price

Second generation home computing needs windows, icons, mice, pull down menus – obviously. The QL doesn't qualify here yet The price needs to be within credit card spend which rules out the 520ST and the Amiga. State of the art processing power is essential A 68000, 16032 or 80286 at least which removes Amstrad from the equation for now

If the Amiga and the ST are instead aimed at the Mac, the existing standard, then they will fail no matter what the specification. It is only by identifying a different niche and then marketing into it that they will succeed

The prime egg-on-face division at the moment is those self-styled experts who say that Mac software will be ported over to the Amiga and the ST They reason that all three use the same 68000 processor

What they aren't allowing for is the unique architecture of the Mac The design is such that the Rom effectively runs at twice the speed of the Ram The Rom also contains most things a programmer will ever need It is not surprising, therefore, that all the best Mac software has to be largely a succession of Rom calls Try porting that over

The Spectrum, C64, Apple II, IBM and Macintosh will continue on regardless, because of their software bases and where do the Enterprises, STs, QLs and Amigas fit in? Nowhere

Bruce Everiss

High temperature

Puzzle No 180

In the diagram of the thermometer below, we have marked in the value of minus 40 degrees which is the only value which is the same on both the Fahrenheit and Centigrade scales

°C °F

However, the other four graduations are for pairs of values which although not the same in both of the scales, consist of the same digits differently arranged They are for the next four smallest values, although it should be stated that such values would not necessarily be found on a thermometer In each case the temperatures are whole numbers

Solution to Puzzle No 175

A starting value of 7406 will, if the given instructions are carried out, result in a final value of 66666

```
10 FOR N=1000 TO 9999
20 X=N
30 X=X*2:X=X+2
40 X=X*3:X=X+3
50 X$=STR$(X):X$=MID$(X$,2)
60 FOR Z=2 TO LEN(X$)
70 IF MID$(X$,1,1)<>MID$(X$,Z,1) THEN GOTO 100
80 NEXT Z
90 PRINT N,X$
100 NEXT N
```

The program uses the *For/Next* loop (*X*) to test all integers from one thousand to ten thousand The resulting number is then converted to a string variable and is checked to determine if it consists of the same digit repeated (by comparing the first character with the second third, and so on)

From this only one number, 7406 will result in such a sum.

Winner of Puzzle 175

The winner is Steve Williamson of Dronfield, Derbyshire, who receives £10

Rules

The closing date for Puzzle No 180 is November 20

The Hackers





ATARI
ST
520ST
POWER WITHOUT THE PRICE
THE NEW ATARI 520ST
USER FRIENDLY GEM OPERATING SYSTEM
FREE SOFTWARE AND FUTURE EXPANSION
★512K RAM ★B/W MONITOR
★MOUSE ★500K 3.5" DISK DRIVE
★GEM ★KEYBOARD (95 KEYS)
£749
ATARI 520ST SPECIFICATION
MACINTOSH v F1e v 520ST
APPLE APRICOT ATARI
PRICE
PRESS COMMENT
SILICA SHOP LTD. 1-4 The Mews, Hatherley Road, Sidcup, Kent, DA14 4DX
SEND FOR FREE ATARI ST LITERATURE
ATARI
SILICA SHOP
WE ARE THE UK's No1 ATARI SPECIALISTS
• FREE POST & PACKING ON MAIL ORDERS
• FREE NEXT DAY SECURICOR DELIVERY
• INFORMATION MAILING SERVICE
• TECHNICAL SUPPORT TEAM
• HIGHLY COMPETITIVE PRICES
• AFTER SALES SUPPORT SERVICE
• REPAIR SERVICE ON ATARI PRODUCTS
SILICA HOTLINE 01-309 1111
PLEASE SEND ME FREE LITERATURE
ON THE NEW ATARI 520ST COMPUTER
Mr/Mrs/Ms:
Initials
Surname
Address:
Postcode